DAN SCHONFELD

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NEC, Exh. 2002, p, 2
Peloton v. NEC, IPR2023-01239

B. PROFESSIONAL BIOGRAPHY

Dr. Schonfeld received the B.S. degree in Electrical Engineering and Computer Science from the University of California, Berkeley, California, and the M.S. and Ph.D. degrees in Electrical and Computer Engineering from The Johns Hopkins University, Baltimore, Maryland, in 1986, 1988, and 1990, respectively.

In August 1990, he joined the Department of Electrical Engineering and Computer Science at the University of Illinois, Chicago, Illinois, where he is currently a Professor in the Departments of Electrical and Computer Engineering, Computer Science, and Biomedical Engineering. He has also served as Director of the University-Industry Engineering Research Center (UIERC), also known as the Manufacturing Research Center (MRC). He is also Co-Director of the Multimedia Communications Laboratory (MCL) and member of the Signal and Image Research Laboratory (SIRL).

Dr. Schonfeld has been elevated to the rank of Fellow of the IEEE "for contributions to image and video analysis." He was also elevated to the rank of Fellow of the SPIE "for specific achievements in morphological image processing and video analysis." Dr. Schonfeld has been elected University Scholar of the University of Illinois and received the Graduate Mentoring Award of the University of Illinois at Chicago.

Dr. Schonfeld has authored over 250 technical papers in various journals and conferences. He was co-author (with Carlo Giulietti and Rashid Ansari) of a paper that won the Best Paper Award at the ACM Multimedia Workshop on Advanced Video Streaming Techniques for Peer-to-Peer Networks and Social Networking 2010. He was also co-author (with Junlan Yang) of a paper that won the Best Student Paper Award in the IEEE International Conference on Image Processing 2007. He was also co-author (with Wei Qu) of a paper that won the Best Student Paper Award in the IEEE International Conference on Image Processing 2006. He was also co-author (with Nidhal Bouaynaya) of a paper that won the Best Student Paper Award in Visual Communication and Image Processing 2006.

Dr. Schonfeld has served as Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology. He has also served as Deputy Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology as well as Area Editor for Special Issues of the IEEE Signal Processing Magazine. He has also served as Associate Editor of the IEEE Transactions on Image Processing (on image and video storage, retrieval and analysis), Associate Editor of the IEEE Transactions on Circuits and Systems for Video Technology (on video analysis), Associate Editor of the IEEE Transactions on Signal Processing (on multidimensional signal processing and multimedia signal processing), and Associate Editor of the IEEE Transactions on Image Processing (on nonlinear filtering). He has also served on the editorial board of various journal publications. He has also served as guest editor for numerous special issues in various journal publications.

Dr. Schonfeld is currently serving on the Conference Board of the IEEE Signal Processing Society. He has also served as Technical Program Chair of the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2018. He was also organizer of the Thematic Symposium on Multimedia Search and Retrieval at the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2009. He has also served as General Chair of the International Conference on Internet Multimedia Computing and Service (ICIMCS) 2018, the IEEE Conference on Visual Communication and Image Processing (VCIP) 2016, the Workshop on Big Data in 3D Computer Vision 2013, and the IEEE International Conference on Multimedia and Expo (ICME) 2012. He has also served as Program Chair of the IEEE Conference on Visual Communication and Image Processing (VCIP) 2015. He has also served as Technical Program Chair of the IEEE Workshop on Genomic Signal Processing and Statistics (GENSIPS) 2009 as well as Chair of the Workshop on Video Mining 2008. He has also served as Chair of the SPIE Conference on Visual Communication and Image Processing (VCIP) 2007. He was a member of the organizing committees of the

IEEE International Conference on Image Processing (ICIP) 1998, 2012, 2018, and 2020, IEEE/SPIE International Conference on Visual Communications and Image Processing (VCIP) 2007, 2010, 2015, 2016, and 2017, and IEEE Workshop on Nonlinear Signal and Image Processing (NSIP) 1997.

Dr. Schonfeld was keynote speaker at the N-Brain Alliance Launch & Product Release Conference 2018 as well as Think for Education Conference (TEC) AI+Education 2018. He was also keynote speaker at the International Conference on Wireless Communications and Signal Processing (WCSP) 2016. He was also keynote speaker at the International Conference on Intelligent Control and Information Processing (ICICIP) 2013 and International Conference on Brain Inspired Cognitive Systems (BICS) 2013. He was also plenary speaker at the IEEE/IET International Conference on Audio, Language and Image Processing (ICALIP), Shanghai, China, in 2010. He was also plenary speaker at the IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS), Genoa, Italy, in 2009. He was also plenary speaker at the INPT/ASME International Conference on Communications, Signals, and Systems (ICCSS), Rabat Morocco, in 1995 and 2001.

Dr. Schonfeld has served as Representative of Regions 1-6 (North America) in the Chapters Committee of the IEEE Signal Processing Society. He has also served as Chairman of the Chicago Chapter of the IEEE Signal Processing Society. He is currently serving on the IEEE Multimedia Communications Technical Committee and IEEE Visual Signal Processing and Communications (VSPC) Technical Committee. He has also served on the IEEE Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee, formerly the IEEE Image and Multidimensional Signal Processing (IMDSP) Technical Committee. He also served on the American National Standards Institute (ANSI) / Underwriters Laboratory (UL) Standards Technical Panel ("STP") on Multimedia Systems.

His current research interests are in signal processing, image and video analysis, video retrieval and communications, multimedia systems, computer vision, medical imaging, and genomic signal processing.

C. RESEARCH INTERESTS

Signal Processing, Image and Video Analysis, Video Retrieval and Communications, Multimedia Systems, Computer Vision, Machine Learning, Medical Imaging, and Genomic Signal Processing.

D. HONORS AND AWARDS

IAM Patent 1000 2015: The World's Leading Patent Practitioners
The Worlds Leading Patent Litigation Expert Witnesses
Fourth Edition
2015

Graduate Mentoring Award
University of Illinois at Chicago
2014

University Scholar
University of Illinois
2010

Fellow
Asia-Pacific Artificial Intelligence Association (AAIA)
2021

Fellow
International Society for Optics and Photonics (SPIE)
"For Specific Achievements in Morphological Image Processing and Video Analysis"
2011

Fellow
Institute of Electrical and Electronics Engineers (IEEE)
"For Contributions to Image and Video Analysis"
2010

Senior Member
Institute of Electrical and Electronics Engineers (IEEE)
2005

Best Paper Award
C. Giulietti, D. Schonfeld, and R. Ansari
"A Novel Cache Optimization Algorithm and Protocol
for Video Streaming in Pure Peer-to-Peer Networks"
ACM Multimedia Workshop on Advanced Video Streaming Techniques
for Peer-to-Peer Networks and Social Networking
2010

Best Student Paper Award
J. Yang, D. Schonfeld and M. Mohamed
"Robust Focused Image Estimation from Multiple Images in Video Sequences"
IEEE International Conference on Image Processing
2007

Best Student Paper Award
W. Qu and D. Schonfeld
"Robust Kernel-Based Tracking Using Optimal Control"
IEEE International Conference on Image Processing
2006

Best Student Paper Award
N. Bouaynaya and D. Schonfeld
"Spatially-variant morphological image processing: Theory and applications"
SPIE Conference on Visual Communications and Image Processing
2006

Advising Award
College of Engineering
University of Illinois at Chicago
2013

Outstanding Associate Editor Award – IEEE Circuits and Systems Society
IEEE Circuits and Systems Society

IEEE Transactions on Circuits and Systems for Video Technology
2009

Most Active Chapter Award – IEEE Signal Processing Chicago Chapter Chair
IEEE – Region 4
2008

Service Award – IEEE Signal Processing Chicago Chapter Chair
IEEE – Chicago Section
2007

Certificate of Felicitation – Techo India University
"In recognition of your stellar contribution in the field of Electrical Engineering & Computer Science"
Kolkata, West Bengal, India
2023

Certificate of Appreciation – IEEE Signal Processing Society
Chair, IEEE Signal Processing Chapter
Chicago Section
2006-2012

Certificate of Appreciation – IEEE Circuits and Systems Society
IEEE Circuits and Systems Society
Prize Paper Award Subcommittee
2010

Certificate of Appreciation – IEEE Circuits and Systems Society
IEEE Circuits and Systems Society
Deputy Editor-in-Chief of the IEEE Transactions on Circuits and Systems for Video Technology
2008 – 2010

Certificate of Appreciation – IEEE Circuits and Systems Society
IEEE Circuits and Systems Society
Associate Editor of the IEEE Transactions on Circuits and Systems for Video Technology
2008 – 2010

Certificate of Appreciation – IEEE Signal Processing Chicago Chapter Chair
IEEE – Chicago Section
2006

Top Reviewer Recognition Certificate
IEEE International Conference on Image Processing (ICIP)
Abu Dhabi, United Arab Emirates
2020

2018 Albert Nelson Marquis Lifetime Achievement Award
Marquis Who's Who

Who's Who in the World
2021 Edition

Who's Who in the World
2020 Edition

Who's Who in the World
2019 Edition

Who's Who in the World
2018 Edition

Worldwide Who's Who
2014 Edition

Who's Who in America (WWA)
2019 Edition

Who's Who in America (WWA)
2012 Edition

Who's Who in America (WWA)
2011 Edition

Who's Who in America (WWA)
2010 Edition

Who's Who in Engineering Education (WWEE)
2002 Edition

University Fellowship
The Johns Hopkins University
1986—1990

E. IN THE NEWS

IEEE Fellow Dan Schonfeld: Helping Catch Thieves & Read Fuzzy Faxes
e-Scanfax: IEEE Chicago Section Newsletter
January 2010
http://www.ieeechicago.org/LinkClick.aspx?fileticket=Py81tdr4GTM%3D&tabid=390&mid=884

IEEE-Chicago Fellows Provide Words of Wisdom to New IEEE Members
e-Scanfax: IEEE Chicago Section Newsletter
May 2010
http://www.ieeechicago.org/LinkClick.aspx?fileticket=2GIDPZnZQ_M%3D&tabid=390&mid=884

What You See, What You Get
University Scholar Dan Schonfeld
Paul Francuch
UIC News
November 10, 2010

http://www.uic.edu/htbin/cgiwrap/bin/uicnews/articledetail.cgi?id=14769

Genomic Signal Processing May Yield Clues to Cancer Treatment
Paul Francuch
UIC News Release
November 17, 2010
http://tigger.uic.edu/htbin/cgiwrap/bin/newsbureau/cgi-bin/index.cgi?
from=Releases&to=Release&id=3073&start=1232172000&end=1329285600&topic=2&dept=64

New Camera Focuses Photos After They Are Taken
Morgen Peck
InnovationNewsDaily Contributor
November 4, 2011
http://www.innovationnewsdaily.com/camera-focuses-photos-after-2358/

F. EDUCATION

Ph.D. July 1990
The Johns Hopkins University
Department of Electrical & Computer Engineering
Concentration: Nonlinear Signal Processing / Image Analysis
Thesis Title: "Optimal Morphological Representation and Restoration of Binary Images: Theory and Applications"
First Reader: Prof. John Goutsias; Second Reader: Prof. Victor Solo

M.S. May 1988
The Johns Hopkins University
Department of Electrical & Computer Engineering
Concentration: Speech Processing / Biomedical Signal Processing
Advisor: Prof. Moise H. Goldstein

B.S. May 1986
University of California at Berkeley
Department of Electrical Engineering & Computer Science
Concentration: Computer Engineering / Systems Engineering
Advisor: Prof. Michael J. Sabin

G. WORK EXPERIENCE

Director
Manufacturing Research Center (MRC)
University-Industry Engineering Research Center (UIERC)
College of Engineering
University of Illinois at Chicago
Chicago, Illinois
2008—2011

Professor with Tenure
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2007—Present

Professor (Courtesy Appointment)
Department of Computer Science
University of Illinois at Chicago
Chicago, Illinois
2007— 2025

Professor
Department of Biomedical Engineering
University of Illinois at Chicago
Chicago, Illinois
2021— Present

Professor
Department of Bioengineering
University of Illinois at Chicago
Chicago, Illinois
2007— 2021

Associate Professor with Tenure
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2001—2007

Associate Professor (Courtesy Appointment)
Department of Computer Science
University of Illinois at Chicago
Chicago, Illinois
2001—2007

Associate Professor
Department of Bioengineering
University of Illinois at Chicago
Chicago, Illinois
1998—2007

Associate Professor with Tenure
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
Chicago, Illinois
1996—2001

Co-Director
Multimedia Communications Laboratory (MCL)
Department of Electrical & Computer Engineering

University of Illinois at Chicago
Chicago, Illinois
1997—Present

Assistant Professor
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
Chicago, Illinois
1990—1996

Member
Signal and Image Research Laboratory (SIRL)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
1990—2002

Instructor
Department of Electrical and Computer Engineering
The Johns Hopkins University
Baltimore, Maryland
1987—1990

Teaching Assistant
Department of Electrical and Computer Engineering
The Johns Hopkins University
Baltimore, Maryland
1986—1990

Software Engineer
Computer Aided Design
Teledyne Systems
Northridge, California
Summer 1984—85—86

H. CONSULTING EXPERIENCE

Consultant & Expert Witness
2001—Present

Consulting Activities:
Deposition and Trial Testimony
Patent Litigation
Copyright Litigation
Trade Secret Litigation
International Trade Litigation
Customs Litigation
Contract Litigation

Areas of Expertise:
Multimedia Systems
Multimedia Retrieval, Storage, and Communication Systems
Image and Video Processing
Signal Processing and Communications

Examples of Previous Litigation Experience:
Cable Systems
Camera Systems
Graphics Processors
Image Compression Systems
Image Processing Systems
Internet Advertising
Internet Streaming
Jukebox Systems
Medical Imaging
Signal Processing
Smartphones and Tablets
Television Systems
Video-on Demand (VoD) Systems
Video Compression Systems
Video Storage Systems
Video Streaming Systems
Wireless Systems

Companies:
Served as a consultant and expert witness for various companies including ARRIS, Blackberry, Broadcom, Cablevision, Cisco, Dell, Google, Hewlett-Packard, Huawei, Motorola, NVIDIA, Panasonic, Qualcomm, Samsung, Time Warner, Zeiss.

Consultant & President
Schonfeld Consulting Corporation
Multimedia Systems
Northbrook, Illinois
2017—Present

Consultant & President
Multimedia Systems Corporation
Multimedia Systems
Glenview, Illinois
2002—2005

Consultant
Chicago Merchantile Exchange
Multimedia Communication Networks
Chicago, Illinois
1998

Consultant
PrairieComm Corp.
Multimedia Wireless Networks

Arlington Heights, Illinois
1997

I. VISITING POSITIONS

Distinguished Visiting Scholar
Advanced Analytics Institute (AAI)
University of Technology
Sydney, Australia
2012

Visiting Professor
Department of Information Engineering and Computer Science - DISI
University of Trento
Trento, Italy
May 2010

Visiting Professor
School of Computer Engineering
Nanyang Technological University
Singapore
July 2009

Visiting Associate Professor
Department of Electrical Engineering—Systems
Tel-Aviv University
Tel-Aviv, Israel
December 1996—January 1997

J. INTERDISCIPLINARY PROGRAMS

Collaborative Neuroimaging Environment for Connectomics (CoNECT)
University of Illinois at Chicago
2013—Present

Clinical and Translational Science (CCTS)
Biomedical Informatics Core Consult Group
University of Illinois at Chicago
2009—Present

Graduate Program in Neuroscience
University of Illinois at Chicago
2001—Present

Bioinformatics Program
Department of Bioengineering
University of Illinois at Chicago
2000—Present

K. PROFESSIONAL ACTIVITIES

K.1. Editorships

Editor-in-Chief (EIC)
IEEE Transactions on Circuits and Systems for Video Technology
2014—2017

Deputy Editor-in-Chief (DEIC)
IEEE Transactions on Circuits and Systems for Video Technology
2010—2013

Area Editor, Special Sections
Special Issues
IEEE Signal Processing Magazine
2009—2011

Editor
Video Search and Mining
Studies in Computational Intelligence Series
Springer-Verlag
2009

Associate Editor
IEEE Transactions on Image Processing
Image and Video Storage, Retrieval and Analysis
2007—2009

Associate Editor
IEEE Transactions on Circuits and Systems for Video Technology
Video Analysis
2006—2009

Associate Editor
IEEE Transactions on Signal Processing
Multidimensional Signal Processing &
Multimedia Signal Processing
1999—2000

Associate Editor
IEEE Transactions on Image Processing
Filtering and Enhancement
1994—1996

Guest Editor
IEEE Journal of Special Topics in Signal Processing
Special Issue on Mathematical Morphology

and Its Applications to Image and Signal Processing
2011—2012

Guest Editor
IEEE Transactions on Image Processing
Special Issue on Distributed Camera Networks:
Sensing, Processing, Communication and Computing
2010—2011

Guest Editor
EURASIP Journal on Image and Video Processing
Special Issue on Advanced Video-Based Surveillance
2010—2011

Lead Guest Editor
IEEE Journal of Special Topics in Signal Processing
Special Issue on Recent Advances in Video Processing for Consumer Displays
2009—2011

Guest Editor
IEEE Transactions on Circuits and Systems for Video Technology
Special Issue on Event Analysis in Videos
2008

Lead Guest Editor
IEEE Journal of Special Topics in Signal Processing
Special Issue on Genomic and Proteomic Signal Processing
2007—2008

Guest Editor
Journal of Advances in Multimedia
Special Issue on Plenoptic Signal and Image Processing
2007—2008

Advisory Board
Bentham Books
Bentham Science
2021—Present

Editorial Board
Sensors
MDPI
2021—Present

Editorial Board
Recent Advances in Computer Science and Communications
Bentham Science Publishers, Ltd.
2012—Present

Editorial Board
Journal of Electrical and Computer Engineering

Hindawi Publishing Corporation
2009— 2019

Editorial Board
EURASIP Journal of Image and Video Processing
2009—2013

Editorial Board
IEEE Signal Processing Magazine
2008—2011

Editorial Board
Research Letters in Signal Processing
Hindawi Publishing Corporation
2007—2009

Editorial Board
Recent Patents on Computer Science
Bentham Science Publishers, Ltd.
2007—2019

Editorial Board
Recent Patents on Electrical Engineering
Bentham Science Publishers, Ltd.
2007—2012

Contributor
Science and Technology: SPIE Newsroom
Electronic Imaging and Signal Processing
2005—2008

K.2. Committees

Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI)
2020

MPEG Future
2020–Present

Ad-Hoc Committee of the Conferences Board on Flagship Conferences Future Strategy
IEEE Signal Processing Society
2020-2021

Ad-Hoc Committee on Multi-Scale Models at SPS Flagship Conferences
IEEE Signal Processing Society
2019-2020

IEEE Signal Processing (SPS) Liaison
IEEE Signal Processing Society
2019-2021

Conference Board
IEEE Signal Processing Society
2019-2020

Chair
Best Paper Award Committee
CSVT Best Paper Award
IEEE Circuits and Systems Society
2023

Award Committee
Association for Computing Machinery (ACM)
ACM Multimedia
2020

Best Paper Award Selection Committee
CSVT Best Paper Award
IEEE Circuits and Systems Society
2020—2021

Best Paper Award Selection Committee
CSVT Best Paper Award
IEEE Circuits and Systems Society
2019—2020

Best Paper Award Selection Committee
CSVT Best Paper Award
IEEE Circuits and Systems Society
2013

Steering Committee
International Association for Pattern Recognition (IAPR)
Discrete Geometry and Mathematical Morphology (DGMM)
2022—Present

Travel Grant Selection Committee
IEEE Signal Processing Society
IEEE International Conference on Image Processing
2011

Steering Committee
International Society of Mathematical Morphology (ISMM)
International Symposium on Mathematical Morphology (ISMM)
2011—Present

Advisory Committee
IEEE Circuits and Systems Society
Visual Signal Processing and Communication (VSPC) Technical Committee
IEEE Conference on Visual Communications and Image Processing (VCIP)
2010— Present

Steering Committee
SPIE and IEEE Circuits and Systems Society
Conference on Visual Communications and Image Processing
2008—2010

Scientific Advisory Board
World Congress of NeuroTalk
From Nervous Functions to Treatment
Singapore Expo, Singapore
2010

Chair
Nominations and Elections Subcommittee
Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee
IEEE Signal Processing Society
2010— 2011

Honorable Member
Visual Signal Processing and Communications (VSPC) Technical Committee
IEEE Circuits and Systems Society
2018— Present

Member
Visual Signal Processing and Communications (VSPC) Technical Committee
IEEE Circuits and Systems Society
2015— 2019

Associate Member
Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee
IEEE Signal Processing Society
2014— Present

Member
IEEE Multimedia Communications Technical Committee (MMTC) Technical Committee
IEEE Communications Society
2009— Present

Member
Image, Video, and Multidimensional Signal Processing (IVMSP) Technical Committee
IEEE Signal Processing Society
2009— 2012

Member
Image and Multidimensional Signal Processing (IMDSP) Technical Committee
IEEE Signal Processing Society
2007—2008

Member
Signal and Image Processing in Medicine Technical Committee
IEEE Circuits and Systems Society

1990—1996

Member
P2P Communication and Networking Technical Subcommittee
Multimedia Communications Technical Committee
IEEE Communications Society
2006—Present

Representative
Regions 1-6 (North America)
Chapters Committee
IEEE Signal Processing Society
2006—2012

Chairman
Chicago IEEE Signal Processing Chapter
2006—2012

Member
American National Standards Institute/Underwriters Laboratory (ANSI/UL)
Standards Technical Panels (STP)
STP 1863: Communications-Circuit Accessories
UL 1863: Standard for Communications-Circuit Accessories
STP 6065: Audio, Video And Similar Electronic Apparatus - Safety Requirements
UL 150: Standard for Antenna Rotators
UL 452: Standard for Antenna – Discharge Units
UL 469: Standard for Musical Instruments and Accessories
UL 813: Standard for Commercial Audio Equipment
UL 1412: Standard for Fusing Resistors and Temperature-Limited Resistors for Radio- and Television-Type Appliances
UL 1413: Standard for High-Voltage Components for Television-Type Appliances
UL 1416: Standard for Overcurrent and Overtemperature Protectors for Radio- and Television-Type Appliances
UL 1417: Standard for Special Fuses for Radio- and Television-Type Appliances
UL 1492: Audio/Video Products and Accessories
UL 1676: Standard for Conductive-Path and Discharge-Path Resistors for Use in Radio-, Video-, or Television-Type Appliances
UL 6500: Standard for Audio/Video and Musical Instrument Apparatus for Household, Commercial, and Similar General Use
UL 60065: Standard for Audio, Video and Similar Electronic Apparatus – Safety Requirements
STP 6268: Audio/Video, Information Technology, And Communication Technology Equipment
UL 62368: Audio/video, Information and Communication Technology Equipment
STP 9990: Information and Communication Technology (ICT) Cables
UL 9990: Standard for Safety for Information and Communication Technology (ICT) Power Cables
2002—Present

K.3. Review Panels

Member
Expert Panel
Faculty of Computing and Electrical Engineering
Tampere University of Technology (TUT)
Tampere, Finland
2011

Member
Paper Award Committee
IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)
Genoa, Italy
2009

Member
Technical Jury
NTT DoCoMo USA Labs Most Innovative Paper Awards
IEEE International Conference on Image Processing
San Diego, California
2008

Member
Technical Jury
NTT DoCoMo USA Labs Most Innovative Paper Awards
IEEE International Conference on Image Processing
San Antonio, Texas
2007

Member
Technical Jury
NTT DoCoMo USA Labs Most Innovative Paper Awards
IEEE International Conference on Image Processing
Atlanta, Georgia
2006

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Computing and Communication Foundations (CCF)
Image and Multi-Dimensional Signal Processing (IMDSP)
2015

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Computing and Communication Foundations (CCF)
Communications and Information Foundations (CIF)
2012

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Computing and Communication Foundations (CCF)
Communications and Information Foundations (CIF)
2011

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Information & Intelligent Systems (IIS)
Databases and Data Mining (DB/DM)
2007

Member
NSF Review Panel
Small Business Innovation Research (SBIR) Program
Robotics II
Phase II
2007

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Information & Intelligent Systems (IIS)
Information Management (IM)
2006

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Information & Intelligent Systems (IIS)
Information & Knowledge Management (IKM)
2005

Member
NSF Review Panel
Small Business Innovation Research (SBIR) Program
Robotics II
Phase I
2005

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Advanced Networking Infrastructure and Research (ANIR)
Information Technology Research (ITR)
Networking Research
Small Grants
2002

Member
NSF Review Panel
Small Business Innovation Research (SBIR) Program
Diagnostic Systems and Signal Processing
Phase I
2002

Member
NSF Review Panel
Computer & Information Science & Engineering (CISE)
Information Technology Research (ITR)
Biology & Information Technology
Computational Biology / Biocomputation
Medium Grants
2003

K.4. Conference Chair

General Chair
International Conference on Internet Multimedia Computing and Service (ICIMCS)
Nanjing, China
2018

Technical Program Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)
Calgary, Canada
2018

General Co-Chair
IEEE Conference on Visual Communications and Image Processing (VCIP)
Chengdu, China
2016

Program Co-Chair
IEEE Conference on Visual Communications and Image Processing (VCIP)
Singapore
2015

General Co-Chair
Workshop on Big Data in 3D Computer Vision
Held in conjunction with the IEEE International Conference on Computer Vision (ICCV)
Melbourne, Australia
2013

General Co-Chair
IEEE International Conference on Multimedia and Expo (ICME)
Melbourne, Australia
2012

Technical Program Chair

IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS)
Minneapolis, Minnesota
2009

Chair
Workshop on Video Mining
IEEE International Conference on Data Mining
Held in conjunction with the IEEE International Conference on Data Mining (ICDM)
Pisa, Italy
2008

Chair
SPIE International Conference on Visual Communications and Image Processing (VCIP)
San Jose, California
2007

Multimedia Content Analysis Track Chair
IEEE International Conference on Multimedia and Expo
New York, New York
2009

Technical Program Committee / Area Chair
IEEE International Conference on Image Processing
San Diego, California
2008

Technical Program Committee / Area Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Las Vegas, Nevada
2008

Technical Program Committee / Area Chair
IEEE International Conference on Image Processing
San Antonio, Texas
2007

Associate Program Chair
ACM Multimedia
Juan Les Pins, France
2002

K.5. Organizing Committees

TBD
IEEE International Conference on Image Processing (ICIP)
Abu Dhabi, United Arab Emirates
2024

Special Sessions Co-Chair
IEEE International Conference on Image Processing (ICIP)

Abu Dhabi, United Arab Emirates
2020

Technical Program Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)
Calgary, Canada
2018

Plenary Co-Chair
IEEE Conference on Visual Communications and Image Processing (VCIP)
St. Petersburg, Florida
2017

General Co-Chair
IEEE Conference on Visual Communications and Image Processing (VCIP)
Chengdu, China
2016

Program Co-Chair
IEEE Conference on Visual Communications and Image Processing (VCIP)
Singapore
2015

General Co-Chair
Workshop on Big Data in 3D Computer Vision
Held in conjunction with the IEEE International Conference on Computer Vision (ICCV)
Melbourne, Australia
2013

General Co-Chair
IEEE International Conference on Multimedia and Expo (ICME)
Melbourne, Australia
2012

Plenary Chair
IEEE International Conference on Image Processing (ICIP)
Orlando, Florida
2012

Publications Chair
IEEE Conference on Advanced Video and Signal-based Surveillance (AVSS)
Beijing, China
2012

USA Liaison Chair
IEEE Conference on Advanced Video and Signal-based Surveillance (AVSS)
Klagenfurt, Austria
2011

Publicity Co-Chair
IEEE/SPIE International Conference on Visual Communications and Image Processing (VCIP)

Huang Shan, An Hui, China
2010

Technical Program Chair
IEEE International Workshop on Genomic Signal Processing and Statistics (GENSIPS)
Minneapolis, Minnesota
2009

Organizer
IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)
Thematic Symposium on Multimedia Search and Retrieval
Taipei, Taiwan
2009

Chair
Workshop on Video Mining
Held in conjunction with the IEEE International Conference on Data Mining (ICDM)
Pisa, Italy
2008

Chair
SPIE International Conference on Visual Communications and Image Processing (VCIP)
San Jose, California
2007

Technical Organizing Committee
IS&T/SPIE Annual Symposium on Electronic Imaging: Science and Technology
San Jose, California
2007

Publications Chair
IEEE International Conference on Image Processing
Chicago, Illinois
1998

Plenary Talks and Special Session Chair
IEEE/EURASIP Workshop on Nonlinear Signal and Image Processing
Mackinac Island, Michigan
1997

K.6. Technical Program Committees

Technical Program Committee
SPIE Conference on Video Surveillance and Transportation Imaging
San Francisco, California
2015

Technical Program Committee
SPIE Conference on Video Surveillance and Transportation Imaging
San Francisco, California

2014

Program Committee
IEEE International Conference on Automatic Face and Gesture Recognition (FG 2013)
Shanghai, China
2013

Technical Program Committee
SPIE Conference on Video Surveillance and Transportation Imaging
San Francisco, California
2013

Technical Program Committee
SPIE Conference on Visual Information Processing and Communication
San Francisco, California
2013

Technical Program Committee
ICST International Conference on
Wireless Mobile Communication and Healthcare (MobiHealth)
Paris, France
2012

Technical Program Committee
SPIE Conference on Visual Information Processing and Communication
San Francisco, California
2012

Program Committee
International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR)
Held in conjunction with the International Conference on Computer Vision
Barcelona, Spain
2011

Technical Program Committee
ICST International Conference on
Wireless Mobile Communication and Healthcare (MobiHealth)
Kos Island, Greece
2011

Technical Program Committee
SPIE Conference on Visual Information Processing and Communication
San Francisco, California
2011

Technical Program Committee
IEEE International Workshop on Genomic Signal Processing and Statistics
Cold Spring Harbor Laboratory, New York
2010

Technical Program Committee

IEEE International Conference on Multimedia and Expo (ICME)
Singapore
2010

Technical Program Committee
International Conference on Pattern Recognition (ICPR)
Track I: Computer Vision
Istanbul, Turkey
2010

Technical Program Committee
ACM/IEEE International Conference on Distributed Smart Cameras (ICDSC)
Atlanta, Georgia
2010

Technical Program Committee
IEEE Workshop on Multimedia Computing and Communications (MCC)
Held in conjunction with the International Conference on Computer Communications and Networks (ICCCN)
Zurich, Switzerland
2010

Program Committee
ACM International Conference on Bioinformatics and Computational Biology (ACM-BCB)
Niagara Falls, New York
2010

Technical Program Committee
IEEE/SPIE International Conference on Visual Communications and Image Processing
Huang Shan, An Hui, China
2010

Technical Program Committee
ICST International Conference on
Wireless Mobile Communication and Healthcare (MobiHealth)
Ayia Napa, Cyprus
2010

Technical Program Committee
SPIE International Conference on Visual Information Processing and Communications
San Jose, California
2010

Program Committee
International Workshop on Video Event Categorization, Tagging and Retrieval (VECTaR)
Held in conjunction with the Asian Conference on Computer Vision
Xi'an, China
2009

Program Committee
IEEE International Workshop on Video-Oriented Object and Event Classification (VOEC)

Held in conjunction with the International Conference on Computer Vision (ICCV)
Kyoto, Japan
2009

Program Committee / Reviewer
IEEE International Conference on Computer Vision
Kyoto, Japan
2009

Technical Program Committee
IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)
Genoa, Italy
2009

Technical Program Committee
IEEE Workshop on Multimedia Computing and Communications (MCC)
Held in conjunction with the International Conference on Computer Communications and Networks (ICCCN)
San Francisco, California
2009

Technical Program Committee
International Conference on Image and Graphics
Xi'an, China
2009

Program Committee
International Conference on Advances in Multimedia (MMEDIA)
Colmar, France
2009

Technical Program Committee
IEEE International Workshop on Computational Advances
in Multi-Sensor Adaptive Processing (CAMSAP)
Dominican Republic
2009

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
San Jose, California
2009

Technical Program Committee / Reviewer
IEEE International Conference on Image Processing
San Diego, California
2008

Program Committee
IEEE Conference on Computer Vision and Pattern Recognition
Anchorage, Alaska
2008

Technical Program Committee / Reviewer
IEEE International Conference on Acoustics, Speech, and Signal Processing
Las Vegas, Nevada
2008

Technical Program Committee
IEEE International Workshop on Genomic Signal Processing and Statistics
Phoenix, Arizona
2008

Technical Program Committee
International Workshop on Multimedia Analysis & Processing (IMAP)
U.S. Virgin Islands
2008

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
San Jose, California
2008

Program Committee
IEEE International Conference on Computer Vision
Rio de Janeiro, Brazil
2007

Technical Program Committee / Reviewer
IEEE International Conference on Image Processing
San Antonio, Texas
2007

Technical Program Committee
IEEE International Workshop on Genomic Signal Processing and Statistics
Tuusula, Finland
2007

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
San Jose, California
2007

Technical Program Committee
IEEE International Conference on Image Processing
Atlanta, Georgia
2006

Technical Program Committee
IEEE International Workshop on Genomic Signal Processing and Statistics
College Station, Texas
2006

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
San Jose, California
2006

Technical Program Committee / Reviewer
IEEE International Conference on Acoustics, Speech, and Signal Processing
Toulouse, France
2006

Technical Program Committee
IEEE International Conference on Image Processing
Genova, Italy
2005

Technical Program Committee / Reviewer
IEEE International Conference on Acoustics, Speech, and Signal Processing
Philadelphia, Pennsylvania
2005

Technical Program Committee
IEEE International Conference on Image Processing
Singapore
2004

Technical Program Committee
IEEE International Conference on Image Processing
Barcelona, Spain
2003

Technical Program Committee
IEEE International Conference on Image Processing
Rochester, New York
2002

Technical Program Committee
IEEE International Conference on Image Processing
Thessaloniki, Greece
2001

Technical Program Committee
IEEE International Conference on Image Processing
Vancouver, Canada
2000

Technical Program Committee
IEEE International Conference on Image Processing
Kobe, Japan
1999

Technical Program Committee

IEEE International Conference on Image Processing
Chicago, Illinois
1998

Technical Program Committee
International Symposium on Mathematical Morphology
Amsterdam, The Netherlands
1998

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
San Jose, California
1998

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
San Jose, California
1997

Technical Program Committee
SPIE International Conference on Visual Communications and Image Processing
Orlando, Florida
1996

Technical Program Committee
IEEE International Conference on Image Processing
Austin, Texas
1994

Technical Program Committee
IEEE International Symposium on Circuits and Systems
Chicago, Illinois
1993

K.7. Session Organizer

Chair
IEEE International Conference on Image Processing
Special Session on Face Recognition II
Orlando, Florida
2012

Organizer and Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Special Session on Video Search and Event Analysis
Taipei, Taiwan
2009

Organizer
Workshop on Global Multimedia Mobile Communications

University of Illinois at Chicago
Chicago, Illinois
2005

Organizer and Chair
IEEE International Conference on Image Processing
Special Session on Nonlinear Filtering
Austin, Texas
1994

Organizer and Chair
IEEE International Symposium on Circuits and Systems
Special Session on Medical Image and Signal Processing
Singapore
1991

Organizer and Chair
Conference on Information Sciences and Systems
Session on Nonlinear Image and Signal Processing I
Baltimore, Maryland
1991

K.8. Session Chair

Chair
IEEE International Conference on Image Processing
Session on Defect Removal
Taipei, Taiwan
2019

Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Session on Stereoscopic and 3D Processing
Brighton, United Kingdom
2019

Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Session on Image and Video Indexing and Retrieval
Prague, Czech Republic
2011

Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Session on Image/Video Semantic Understanding
Dallas, Texas
2010

Chair
IEEE International Conference on Advanced Video and Signal-Based Surveillance (AVSS)

Session on Trajectory Analysis and Learning
Genoa, Italy
2009

Chair
IEEE International Conference on Multimedia and Expo
Session on Multimedia Content Analysis and Synthesis IV
New York, New York
2009

Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Session on Stereoscopic and 3-D Processing
Taipei, Taiwan
2009

Chair
IEEE International Conference on Image Processing
Session on Enhancement and Denoising II
San Diego, California
2008

Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Session on Restoration and Enhancement
Las Vegas, Nevada
2008

Chair
SPIE Electronic Imaging Conference on Visual Communications and Image Processing
Session on Image Processing
San Jose, California
2008

Chair
IEEE International Conference on Image Processing
Session on Image and Video Restoration and Enhancement I
San Antonio, Texas
2007

Chair
IEEE International Conference on Image Processing
Session on Image and Video Filtering
Atlanta, Georgia
2006

Chair
IEEE International Conference on Multimedia and Expo
Session on Media Signal Processing
Toronto, Canada
2006

Chair
IEEE International Conference on Multimedia and Expo
Session on Multimedia Database Applications
Toronto, Canada
2006

Chair
IEEE International Conference on Multimedia and Expo
Session on Peer-to-Peer Multimedia Streaming
Toronto, Canada
2006

Chair
SPIE Electronic Imaging Conference on Visual Communications and Image Processing
Session on Computer Vision
San Jose, California
2006

Chair
IEEE International Conference on Acoustics, Speech, and Signal Processing
Session on Video Segmentation and Tracking
Philadelphia, Pennsylvania
2005

Chair
SPIE Electronic Imaging Conference on Image and Video Communications and Processing
Session on Selective Encryption for Image/Video
San Jose, California
2005

Chair
SPIE Electronic Imaging Conference on Image and Video Communications and Processing
Session on Object Tracking
San Jose, California
2005

Chair
INPT/ASME International Conference on Communications, Signals and Systems
Session on Signals and Data
Rabat, Morocco
2001

Chair
SPIE Conference on Multimedia Storage and Archiving Systems III
Session on Video Segmentation
Boston, Massachusetts
1998

Chair
IEEE International Conference on Image Processing

NEC, Exh. 2002, p, 33
Peloton v. NEC, IPR2023-01239

Session on Image Sequence Segmentation
Chicago, Illinois
1998

Chair
International Symposium on Mathematical Morphology
Session on Theory
Atlanta, Georgia
1996

Chair
INPT/ASME International Conference on Communications, Signals and Systems
Session on Signals and Data
Rabat, Morocco
1995

Chair
IEEE Workshop on Nonlinear Signal and Image Processing
Session on Mathematical Morphology and Fuzzy DSP
Neos Marmaras, Halkidiki, Greece
1995

Chair
IEEE International Conference on Image Processing
Session on Shape Representation and Image Modeling
Austin, Texas
1994

Chair
SPIE Conference on Visual Communications and Image Processing
Session on Mathematical Morphology
Boston, Massachusetts
1992

Chair
Conference on Information Sciences and Systems
Session on Signal Representation, Modeling, and Analysis
Baltimore, Maryland
1991

K.9. Panelist and Participant

Panelist
DOD Tri-Service Workshop on Stochastic Methods in Image Analysis
Session on Mathematical Morphology
U.S. Army Harry Diamond Laboratories
Adelphi, Maryland
1992

Participant

Institute for Mathematics and its Applications (IMA)
Workshop on Large Data Sets in Medical Informatics
Minneapolis, Minnesota
2011

Participant
NSF Workshop on Improving Domestic Student Participation
in Electrical and Computer Engineering Graduate Programs
University of Tennessee
Knoxville, Tennessee
2009

Participant
Workshop on Global Multimedia Mobile Communications
University of Illinois at Chicago
Chicago, Illinois
2005

Participant
Workshop on Extraction of Visual Information by Biological and Non-Biological Systems
University of Illinois at Chicago
Chicago, Illinois
2002

Participant
Workshop on Multimedia Information Systems
Capri, Italy
2001

Participant
NSF Advanced Networking Infrastructure Support
National Workshop on Developing Guidance
Research Competitiveness Program
Washington, D.C.
1999

Participant
Institute for Mathematics and its Applications (IMA)
Workshop on Applications and Theory of Random Sets
Minneapolis, Minnesota
1996

Panelist
VCIP 2015 Panel Discussion: What's Next in Visual Communications and Image Processing?
IEEE Conference on Visual Communications and Image Processing (VCIP)
Singapore
2015

K.10. Outreach Activities

Judge
Region 6 Science Fair Paper Session
Illinois Junior Academy of Science
Stevenson High School
Lincolnshire, Illinois
2022

Judge
State Science Fair Poster Session
Illinois Junior Academy of Science
Peoria Civic Center
Peoria, Illinois
2022

L. PUBLICATIONS

L.1. Thesis

[1] D. Schonfeld, *Optimal Morphological Representation and Restoration of Binary Images: Theory and Applications.* Department of Electrical and Computer Engineering, The Johns Hopkins University, Baltimore, Maryland, 1990.

L.2. Books

[1] C.-W. Chen, D. Schonfeld, and J. Liu, (Eds.), *Proceedings of the SPIE/IS&T International Conference on Visual Communications and Image Processing.* SPIE Press, 2007.

[2] D. Schonfeld, C. Shan, D. Tao, and L. Wang, (Eds.), *Video Search and Mining*. Studies in Computational Intelligence Series, Springer-Verlag, 2010.

L.3. Book Chapters

[1] M. Charif-Chefchaouni and D. Schonfeld, "Spatially-Variant Mathematical Morphology: Minimal Basis Representation," *Mathematical Morphology and Its Applications to Image and Signal Processing*. P. Maragos, R.W. Schafer, and M.K. Butt, (ed.), pp. 49-56, Kluwer Academic Publishers: Boston, Massachussets, 1996.

[2] D. Schonfeld, "Weighted Composite Order-Statistics Filters: Optimal Morphological Pattern Recognition," *Mathematical Morphology and Its Applications to Image and Signal Processing.* P. Maragos, R.W. Schafer, and M.K. Butt, (ed.), pp. 163-170, Kluwer Academic Publishers: Boston, Massachussets, 1996.

[3] D. Schonfeld, "Image and Video Communication Networks," (**Invited Chapter**). *Handbook of Image and Video Processing.* A. Bovik (ed.), Academic Press: San Diego, California, Chapter 9.3, pp. 717-732, 2000.

[4] D. Lelescu and D. Schonfeld, "Video skimming and summarization based on principal component analysis," *Management of Multimedia on the Internet*, Lecture Notes in Computer Science, E.S. Al-Shaer and G. Pacifici (Eds.), Springer-Verlag, pp. 128-141, 2001.

[5] F. Bashir, S. Khanvilkar, A. Khokhar, and D. Schonfeld, "Multimedia systems: Content based indexing and retrieval," (**Invited Chapter**). *Electrical Engineering Handbook*. W-K. Chen (ed.), Academic Press: San Diego, California, pp. 379-400, 2004.

[6] S. Khanvilkar, F. Bashir, D. Schonfeld, and A. Khokhar, "Multimedia networks and communication," (**Invited Chapter**). *Electrical Engineering Handbook*. W-K. Chen (ed.), Academic Press: San Diego, California, pp. 401-425, 2004.

[7] D. Schonfeld, "Video Communication Networks," (**Invited Chapter**). *Handbook of Image and Video Processing. Second Edition.* A. Bovik (ed.), Academic Press: San Diego, California, Chapter 9.3, pp. 1031-1064, 2005.

[8] D. Schonfeld, "Video Communication Networks," (**Invited Chapter**). *The Essential Guide to Video Processing.* A. Bovik (ed.), Elsevier: Chennai, India, Chapter 16, pp. 473-526, 2009.

[9] X. Ma, X. Chen, A. Khokhar, and D. Schonfeld, "Motion trajectory-based video retrieval, classification, and summarization," *Video Search and Mining*. Studies in Computational Intelligence Series, Springer-Verlag, pp. 53-82, 2010.

[10] J. J. GadElkarim, D. Schonfeld, O. Ajilore, L. Zhan, A. Zhang, J.D. Feusner, P. M. Thompson, T. J. Simon, A. Kumar, and A. D. Leow, "A framework for quantifying node-level community structure group differences in brain connectivity networks," *Medical Image Computing and Computer-Assisted Intervention – MICCAI, Lecture Notes in Computer Science.* Vol. 7511, pp. 196-203, 2012.

[11] N. Bouaynaya, R. Shterenberg, D. Schonfeld, and H. M. Fathallah-Shaykh, "Intervention and Control of Gene Regulatory Networks: Theoretical Framework and Application to Human Melanoma Gene Regulation," F. Emmert-Streib, and M. Dehmer, Matthias (eds.), *Statistical Diagnostics for Cancer: Analyzing High-Dimensional Data*. Wiley-VCH, Quantitative and Network Biology, 2013.

[12] S. Friedland, Q. Li, D. Schonfeld, and E. A. Bernal, "Two algorithms for compressed sensing of sparse tensors," Boche H., Calderbank R., Kutyniok G., Vybíral J. (eds.), *Compressed Sensing and its Applications*. Springer-Verlag, pp. 259-281, 2015.

[13] I. Fortel, M. Butler, L. E. Korthauer, L. Zhan, O. Ajilore, I. Driscoll, A. Sidiropoulos, Y. Zhang, L. Guo, H. Huang, D. Schonfeld, and A. Leow, "Brain dynamics through the lens of statistical mechanics by unifying structure and function," *Medical Image Computing and Computer-Assisted Intervention – MICCAI, Lecture Notes in Computer Science 11768*. (D. Shen et al., Eds.). Springer Nature Switzerland AG, pp. 503-511, 2019.

L.4. Journal Editorials

[1] D. Schonfeld, J. Goutsias, I. Shmulevich, I. Tabus, and A.H. Tewfik, "Introduction to the issue on genomic and proteomic signal processing," *IEEE Journal of Selected Topics in Signal Processing*, Special Issue on Genomic and Proteomic Signal Processing, vol. 2, pp. 257-260, 2008.

[2] S.-F. Chang, J. Luo, S. Maybank, D. Schonfeld, and D. Xu, "An Introduction to the special issue on event analysis in videos," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 18, pp. 1469-1472, 2008.

[3] D. Schonfeld, "Perspectives on special issues," *IEEE Signal Processing Magazine*, vol. 26, issue 5, 2009.

[4] D. Schonfeld, "The evolution of signal processing," *IEEE Signal Processing Magazine*, vol. 27, issue 5, 2010.

[5] R. Chellappa, W. Heinzelman, J. Konrad, D. Schonfeld, and M. Wolf, "Introduction to Special Section on Distributed Camera Networks: Sensing, Processing, Communication, and Implementation," Special Section on Distributed Camera Networks: Sensing, Processing, Communication, and Implementation, *IEEE Transactions on Image Processing*, vol. 19, pp. 2513-2515, 2010.

[6] D. Schonfeld, J. Biemond, G. de Haan, and A. Kaup, "Introduction to the issue on recent advances in video processing for consumer displays," *IEEE Journal of Selected Topics in Signal Processing*, Special Issue on Recent Advances in Video Processing for Consumer Displays, vol. 5, pp. 213-216, 2011.

[7] L. Di Stefano, C. Regazzoni, and D. Schonfeld, "Advanced Video-Based Surveillance," EURASIP Journal on Image and Video Processing, Special Issue on Advanced Video-Based Surveillance, Volume 2011, Article ID 857084, 2 pages, 2011.

[8] D. Schonfeld and D. Li, "Signal Processing Trends in Media, Mobility, and Search," *IEEE Signal Processing Magazine*, vol. 28, issue 4, 2011.

[9] L. Najman, J. Barrera, B. S. D. Sagar, P. Maragos, and D. Schonfeld, "Introduction to the issue on filtering and segmentation with mathematical morphology," *IEEE Journal of Selected Topics in Signal Processing*, vol. 6, pp. 737-738, 2012.

[10] D. Schonfeld, "Editor-in-chief message," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 24, pp. 181-182, 2014.

[11] D. Schonfeld, "Editor-in-chief message," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 25, p. 181, 2015.

L.5. Refereed Journal Papers

[1] D. Schonfeld and J. Goutsias, "Optimal morphological pattern restoration from noisy binary images," *IEEE Transactions on Pattern Analysis and Machine Intelligence,* vol. 13, pp. 14-29, 1991.

[2] D. Schonfeld and J. Goutsias, "On the morphological representation of binary images in a noisy environment," *Journal of Visual Communication and Image Representation,* vol. 2, pp. 17-30, 1991.

[3] J. Goutsias and D. Schonfeld, "Morphological representation of discrete and binary images," *IEEE Transactions on Signal Processing,* vol. 39, pp. 1369-1379, 1991.

[4] D. Schonfeld, "On the hysteresis and robustness of Hopfield neural networks," *IEEE Transactions on Circuits and Systems---II: Analog and Digital Signal Processing,* vol. 40, pp. 745-748, 1993.

[5] D. Schonfeld, "Optimal structuring elements for the morphological pattern restoration of binary images," *IEEE Transactions on Pattern Analysis and Machine Intelligence,* vol. 16, pp. 589-601, 1994.

[6] M. Charif-Chefchaouni and D. Schonfeld, "Morphological representation of nonlinear filters," *Journal of Mathematical Imaging and Vision,* vol. 4, pp. 215-232, 1994.

[7] B. Kisacanin and D. Schonfeld, "A fast thresholded linear convolution representation of morphological operations," *IEEE Transactions on Image Processing,* vol. 3, pp. 455-457, 1994.

[8] M. Charif-Chefchaouni and D. Schonfeld, "On the invertibility of the morphological representation of binary images," *IEEE Transactions on Image Processing,* vol. 3, pp. 847-849, 1994.

[9] M. Charif-Chefchaouni and D. Schonfeld, "Morphological representation of order-statistics filters," *IEEE Transactions on Image Processing,* vol. 4, pp. 838-845, 1995.

[10] M. Charif-Chefchaouni and D. Schonfeld, "On the convergence and roots of order-statistics filters," *IEEE Transactions on Signal Processing,* vol. 43, pp. 1990-1993, 1995.

[11] B.K. Jang, R.T. Chin, M. Charif-Chefchaouni, and D. Schonfeld, "Comments on the invertibility of the morphological representation," *IEEE Transactions on Image Processing,* vol. 5, pp. 529-532, 1996.

[12] A. Abu-Naser, N.P. Galatsanos, M.N. Wernick and D. Schonfeld, "Object recognition based on impulse restoration with use of the expectation-maximization algorithm," *Journal of the Optical Society of America A: Optics, Image Science, and Vision,* vol. 15, pp. 2327-2340, 1998.

[13] K.A. Matkowskyj, D. Schonfeld, and R.V. Benya, "Quantitative immunohistochemistry by measuring cumulative signal strength using commercially available software Photoshop and Matlab," *The Journal of Histochemistry & Cytochemistry*, vol. 48(2), pp. 303-311, 2000.

[14] D. Schonfeld, "On the relation of order-statistics filters and template matching," *IEEE Transactions on Image Processing,* vol. 9, pp. 945-949, 2000.

[15] D. Schonfeld and D. Lelescu, "VORTEX: Video retrieval and tracking from compressed multimedia databases—multiple object tracking from MPEG-2 bitstream," (**Invited Paper**). *Journal of Visual Communication and Image Representation*, Special Issue on Multimedia Database Management, vol. 11, pp. 154-182, 2000.

[16] D. Lelescu and D. Schonfeld, "Statistical sequential analysis for real-time scene change detection on compressed multimedia bitstream," *IEEE Transactions on Multimedia*, vol. 5, pp. 106-117, 2003.

[17] V. Pavlovic, D. Schonfeld, and G. Friedman, "Stochastic noise process enhancement of Hopfield neural networks," *IEEE Transactions on Circuits and Systems*, vol. 52, no. 4, pp. 213-217, 2005.

[18] N. Bouaynaya and D. Schonfeld, "Motion-based particle filtering for head tracking applications," (**Invited Paper**). *Electronic Imaging Newsletter*, vol. 15, no. 2, p. 8, 2005.

[19] N. Balakrishnan, K. Hariharakrishnan, and D. Schonfeld, "A new image representation algorithm inspired by image submodality models, redundancy reduction, and learning in biological vision," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 27, no. 9, pp. 1367-1378, 2005.

[20] K. Hariharakrishnan and D. Schonfeld, "Fast object tracking using adaptive block matching," *IEEE Transactions on Multimedia*, vol. 7, no. 5, pp. 853-859, 2005.

[21] B. Cavusoglu, D. Schonfeld, R. Ansari, and D.K. Bal, "Real-time low-complexity adaptive approach for enhanced QoS and error resilience in MPEG-2 video transport over RTP networks," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 15, no. 12, pp. 1604-1614, 2005.

[22] D. Schonfeld and G. Friedman, "On the optimality of hysteresis in signal processing and communication systems," *The Journal of the Franklin Institute,* vol. 342, pp. 749-759, 2005.

[23] S. Balam and D. Schonfeld, "Associative processors for video coding applications," *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 16, pp. 241-250, 2006.

[24] F.I. Bashir, A.A. Khokhar, and D. Schonfeld, "Real-time affine-invariant motion trajectory-based retrieval and classification of video sequences from arbitrary camera view," *ACM Multimedia Systems Journal*, Special Issue on Machine Learning Approaches to Multimedia Information Retrieval, vol. 12, pp. 45-54, 2006.

[25] D. Schonfeld and N. Bouaynaya, "A new method for multidimensional optimization and its application in image and video processing," *IEEE Signal Processing Letters*, vol. 13, pp. 485-488, 2006.

[26] N. Bouaynaya, M. Charif-Chefchaouni and D. Schonfeld, "Spatially-Variant Morphological Restoration and Skeleton Representation," *IEEE Transactions on Image Processing*, vol. 15, pp. 3579-3591, 2006.

[27] F.I. Bashir, A.A. Khokhar, and D. Schonfeld, "Real-time motion trajectory-based indexing and retrieval of video sequences," *IEEE Transactions on Multimedia*, vol. 9, pp. 58-65, 2007.

[28] W. Qu, D. Schonfeld, and M. Mohamed, "Distributed Bayesian multiple target tracking in crowded environments using multiple collaborative cameras," *EURASIP Journal on Applied Signal Processing*, Special Issue on Tracking in Video Sequences of Crowded Scenes, pp. 21-36, 2007.

[29] W. Qu, D. Schonfeld, and M. Mohamed, "Real-time distributed multi-object tracking using multiple interactive trackers and a magnetic-inertia potential model," *IEEE Transactions on Multimedia*, vol. 9, pp. 511-519, 2007.

[30] F.I. Bashir, A.A. Khokhar, and D. Schonfeld, "Object trajectory-based activity classification and recognition using hidden Markov models," *IEEE Transactions on Image Processing*, vol. 16, pp. 1912-1919, 2007.

[31] N. Bouaynaya and D. Schonfeld, "Protein communication system: Evolution and genomic structure," *Algorithmica,* Special issue on Algorithmic Methodologies for Processing Protein Structures, Sequences and Networks, vol. 48, pp. 375-397, 2007.

[32] W. Qu and D. Schonfeld, "Real-time decentralized articulated motion analysis and object tracking from videos," *IEEE Transactions on Image Processing*, vol. 16, pp. 2129-2138, 2007.

[33] S. Liao, M. Dutta, D. Schonfeld, T. Yamanaka and M.A. Stroscio, "Quantum dot blinking: relevance to physical limits for nanoscale optoelectronic device," *Journal of Computational Electronics*, 2008.

[34] P. Pan and D. Schonfeld, "Image reconstruction and multi-dimensional field estimation from randomly scattered sensors," *IEEE Transactions on Image Processing*, vol. 17, pp. 94-99, 2008.

[35] N. Bouaynaya, M. Charif-Chefchaouni and D. Schonfeld, "Theoretical foundations of spatially-variant mathematical morphology – Part I: Binary images," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 30, pp. 823-836, 2008.

[36] N. Bouaynaya and D. Schonfeld, "Theoretical foundations of spatially-variant mathematical morphology – Part II: Gray-level images," *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol. 30, pp. 837-850, 2008.

[37] H. Hong and D. Schonfeld, "Maximum-entropy expectation-maximization algorithm for image reconstruction and sensor field estimation," *IEEE Transactions on Image Processing*, vol. 17, pp. 897-907, 2008.

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L.8. Patents

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M. KEYNOTE AND PLENARY TALKS

Stochastic noise process enhancement of nonlinear filtering
INPT/ASME International Conference on Communications, Signals and Systems
Rabat, Morocco
1995

VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases
INPT/ASME International Conference on Communications, Signals and Systems
Rabat, Morocco
2001

MotionSearch: Content-Based Video Retrieval and Activity Recognition in Video Surveillance
IEEE International Conference on Advanced Video and Signal Based Surveillance (AVSS)
Genoa, Italy
2009

Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions
IEEE International Conference on Networking, Sensing, and Control (ICNSC)
Chicago, Illinois
2010

Signal Processing for Distributed Multi-Camera Networks: Theory and Applications
IEEE/IET International Conference on Audio, Language and Image Processing (ICALIP)
Shanghai, China
2010

The Visual Brain: Biologically-Inspired Imaging and Vision
International Conference on Intelligent Control and Information Processing (ICICIP)
International Conference on Brain Inspired Cognitive Systems (BICS)
Beijing, China
2013

Distributed Multi-Camera Networks: Graphs, Grammars, and Tensors
International Conference on Wireless Communications and Signal Processing (WCSP)
Yangzhou, China
2016

University of Illinois – New Oriental Artificial Intelligence Research Laboratory
N-Brain Alliance Launch & Product Release Conference
New Oriental AI Research Academy
Beijing, China
2018

AI Technology in Education and Academic Thinking
Think for Education Conference (TEC) AI+Education
Beijing, China
2018

Adversarial Networks: Deep Learning, Steganography, and Forgery Detection
IEEE International Conference on Computer, Electrical and Communication Engineering (ICCECE)
Kolkata, India
2023

N. INVITED SEMINARS

Optimal morphological representation and detection of binary images
Department of Electrical Engineering and Computer Science
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Optimal morphological representation and detection of binary images
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Optimal morphological representation and detection of binary images
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Optimal morphological representation and restoration of binary images: Theory and applications
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Optimal morphological representation and restoration of binary images: Theory and applications
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Morphological image processing and analysis: Theory and applications
Department of Electrical and Computer Engineering
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Morphological image representation: Theory and applications
DOD Tri-Service Workshop on Stochastic Methods in Image Analysis
U.S. Army Harry Diamond Laboratories
Adelphi, Maryland
1992

Morphological representation of nonlinear filters: Theory and applications
Department of Electrical and Computer Engineering
Illinois Institute of Technology
Chicago, Illinois
1993

Morphological image representation: Theory and applications
ONR Workshop on Vision and Optical Information Processing
Arlington, Virginia
1994

Nonlinear Signal and Image Processing
Department of Electrical Engineering and Computer Science
University of Illinois
Chicago, Illinois
1996

Nonlinear Operators: Theory and Application to Image Processing and Communications
School of Electrical and Computer Engineering
Technion – Israel Institute of Technology
Haifa, Israel
1996

Stochastic Noise Process Enhancement of Nonlinear Filtering
Department of Electrical Engineering
Northern Illinois University
DeKalb, Illinois
1996

Morphological Signal and Image Processing: Theory and Applications
Department of Electrical Engineering—Systems
University of Tel-Aviv
Tel-Aviv, Israel
1997

VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases
Department of Electrical and Computer Engineering

NEC, Exh. 2002, p, 63
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Illinois Institute of Technology
Chicago, Illinois
2001

Mathematical Morphology and Computer Vision
University of Illinois at Chicago
Chicago, Illinois
2002

VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases
Department of Electrical and Computer Engineering
Drexel University
Philadelphia, Pennsylvania
2002

Time-Series Analysis Based on Statistical Signal Processing: Segmentation, Prediction, and Tracking
Global Electronic Trading Company (Getco)
Chicago, Illinois
2004

Particle Filtering for Head Tracking in Wireless Communications
Motorola Research Labs
Schaumburg, Illinois
2004

Real-Time Video Communications: Compression, Tracking, Retrieval, and Networking
University of Illinois
Chicago, Illinois
2005

Real-Time Video Tracking and Retrieval from Multimedia Databases
Motorola Research Labs
Schaumburg, Illinois
2005

Real-Time Multiple Object Tracking and Motion Trajectory-Based Video Databases: Indexing, Retrieval, and Activity Recognition
Hewlett-Packard Research Labs
Haifa, Israel
2005

Real-Time Video Tracking Based on Particle Filtering
University of Illinois
Chicago, Illinois
2005

Real-Time Collaborative Distributed Tracking and Trajectory Analysis from Multiple Camera and Sensor Networks
School of Electrical and Computer Engineering
Purdue University

West Lafayette, Indiana
2005

A New Method for Multidimensional Optimization and Its Application in Image and Video Processing
Department of Electrical Engineering and Computer Science
Northwestern University
Evanston, Illinois
2006

Protein Communication System: Evolution and Genomic Structure
Department of Electrical and Computer Engineering
University of Illinois at Urbana-Champaign
Urbana-Champaign, Illinois
2006

Protein Communication System: Evolution and Genomic Structure
Bioinformatics Group
Mathematics and Computer Science Division
Argonne National Laboratory
Argonne, Illinois
2006

Distributed Image and Video Processing:
Directed Graphs, Bayesian Estimation, and Hidden Markov Models
College of Information Science and Engineering
Graduate School
Chinese Academy of Science
Beijing, P.R. China
2007

Distributed Image and Video Processing:
Directed Graphs, Bayesian Estimation, and Hidden Markov Models
Visual Computing Group
Microsoft Research Asia
Beijing, P.R. China
2007

Distributed Image and Video Processing:
Directed Graphs, Bayesian Estimation, and Hidden Markov Models
School of Electronic and Information Institute
Tongji University
Shanghai, P.R. China
2007

Distributed Image and Video Processing:
Directed Graphs, Bayesian Estimation, and Hidden Markov Models
School of Automation
Institute of Automation
Hangzhou Dianzi University
Hangzhou, P.R. China

2007

Distributed Image and Video Processing:
Directed Graphs, Bayesian Estimation, and Hidden Markov Models
Department of Information Science and Electronic Engineering
Institute of Information and Communication Systems
Zhejiang University
Hangzhou, P.R. China
2007

IneractiveVision: Distributed Image and Video Processing
Intellectual Property Technical Lecture Series
McAndrews, Held & Malloy, Ltd.
Chicago, Illinois
2007

Distributed Image and Video Processing:
Directed Graphs, Bayesian Estimation, and Hidden Markov Models
Departments of Computer Science and Electrical & Computer Engineering
Technion, Israel Institute of Technology
Haifa, Israel
2007

MotionSearch: Content-Based Video Retrieval and Classification
Joint Chapters of the IEEE
Rochester, New York
2008

Evolution and Genomic Structure: A Signal Processing Perspective
Bioinformatics Cluster
University of Rochester
Rochester, New York
2008

Evolution and Genomic Structure: A Signal Processing Perspective
Department of Electrical Engineering
Columbia University
New York, New York
2008

Evolution and Genomic Structure: A Signal Processing Perspective
Department of Electrical Engineering and Computer Science
Northwestern University
Evanston, Illinois
2008

MotionSearch: Content-Based Video Retrieval and Classification
Distinguished Speaker in the Joint College Colloquium Series
College of Engineering and Information Technology and College of Science and Mathematics
Department of Applied Science
University of Arkansas at Little Rock

Little Rock, Arkansas
2008

Evolution and Genomic Structure: A Signal Processing Perspective
Department of Electrical and Computer Engineering
University of Wisconsin – Madison
Madison, Wisconsin
2008

MotionSearch: Content-Based Video Retrieval and Classification
Department of Electrical & Computer Engineering
Tufts University
Medford, Massachusetts
2009

MotionSearch: Content-Based Video Retrieval and Classification
Department of Electrical & Microelectronics Engineering
Rochester Institute of Technology
Rochester, New York
2009

MotionSearch: Content-Based Video Retrieval and Classification
School of Computer Engineering
Nanyang Technological University
Singapore
2009

Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions
Department of Electrical and Computer Engineering
Illinois Institute of Technology
Chicago, Illinois
2010

Personalized Visual Interaction: Robust Video-Conferencing and Human-Computer Interaction Using a Two-Camera Computer System
Qualcomm Corp.
San Diego, California
2010

Evolution and Genomic Structure: A Signal Processing Perspective
Department of Information Engineering and Computer Science - DISI
Microsoft Research-University of Trento Centre for Computational and Systems Biology
University of Trento
Trento, Italy
2010

A Novel Cache Optimization Algorithm and Video Streaming Protocol for Pure Peer-to-Peer Networks
Motorola Research Labs
Schaumburg, Illinois

2010

Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions
Research Center or Automation
Northeastern University
Shenyang, P.R. China
2010

Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions
School of Automation and Electric Engineering
Zhejiang University of Science and Technology
Hangzhou, P.R. China
2010

Distributed Multi-Camera Networks: Graphical Models, Tensor Representation, and Plenoptic Functions
Center for OPTical IMagery Analysis and Learning (OPTIMAL)
State Key Laboratory of Transient Optics and Photonics
Xi'an Institute of Optics and Precision Mechanics
Chinese Academy of Sciences
Xi'an, P.R. China
2010

Distributed Multi-Camera Networks: Graphs, Grammars, and Tensors
Dean's Leadership in Innovation Seminar Series
Advanced Analytics Institute (AAI)
University of Technology
Sydney, Australia
2012

Genomic Signal Processing: Evolution, Structure, and Regulation
Dean's Leadership in Innovation Seminar Series
Advanced Analytics Institute (AAI)
University of Technology
Sydney, Australia
2012

Distributed Multi-Camera Networks: Theory and Applications
Harbin Engineering University (HEU)
Harbin, China
2014

Distributed Multi-Camera Networks: Theory and Applications
Electrical and Computer Engineering Graduate Program
Ryerson University
Toronto, Canada
2014

Genomic Signal Processing: Evolution, Structure, and Regulation

Distinguished Lecturer Seminar Series
Electrical Engineering Department
The Pennsylvania State University
University Park, Pennsylvania
2015

Genomic Signal Processing: Evolution, Structure, and Regulation
School of Electrical & Electronic Engineering
Nanyang Technological University
Singapore
2015

O. GRADUATE STUDENTS AND VISTING SCHOLARS

O.1. Visiting Scholars

Mohammed Charif-Chefchaouni
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1995
Position: Director and Professor, National Institute of Postes and Telecommunications, Morocco.

Yuesong Lin
Department of Electrical and Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2007
Position: Professor, Institute of Information and Control, Hangzhou Dianzi University, Hangzhou, P.R. China.

Haihong Chi
Department of Electrical and Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Position: Associate Professor, College of Automation, Harbin Engineering University (HEU), Harbin, P.R. China.

Claudio Piciarelli
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
2010
Position: Postdoctoral Fellow, Department of Mathematics and Computer Science, University of Udine, Udine, Italy.

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O.2. Postdoctoral Fellows

Mohammed Charif-Chefchaouni
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1994
Position: Director and Professor, National Institute of Postes and Telecommunications, Morocco.

O.3. Visiting Students

Alessio Dore
Department of Electrical and Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2008
Former Position: Doctoral Candidate, DIBE - Department of Biophysical and Electronic Engineering, University of Genova, Genoa, Italy.
Current Position: Postdoctoral Fellow, Imaging Sciences Centre, Institute of Biomedical Engineering, Imperial College, London, United Kingdom.

Yunmei Gong
Department of Electrical and Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2008-09
Current Position: Doctoral Candidate, Information and Communication Engineering, College of Electronics and Information Engineering, Tongji University, Shanghai, P.R. China.

Nicola Piotto
Department of Electrical and Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Current Position: Doctoral Candidate, Department of Engineering and Computer Science – DISI, Multimedia Signal Processing and Understanding Lab – MMLab, University of Trento, Trento, Italy.

O.4. Doctoral Students

Mohammed Charif-Chefchaouni
"Morphological Representation of Nonlinear Filters: Theory and Applications"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1993
Former Position: Professor, National Institute of Postes and Telecommunications, Rabat, Morocco.
Current Position: Director, National Institute of Postes and Telecommunications, Rabat, Morocco.

Dan Lelescu

NEC, Exh. 2002, p, 70
Peloton v. NEC, IPR2023-01239

"VORTEX: Video Retrieval and Tracking from Compressed Multimedia Databases"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
2000
Former Position(s): Senior Research Scientist, Lead of Algorithms Group, Compression Sciences, Campbell, California, USA; Senior Researcher, NTT DoCoMo Communications Laboratories USA, San Jose, California, USA; Principal Scientist, Advanced Imaging Research & Development Laboratory, Micron Technology, California, USA; Chief Scientist, Pelican Imaging Corporation, Mountain View, California, USA; Chief Scientist, Emergent VR, Campbell, California, USA.
Current Position: Engineer, Apple, Cupertino, California, USA.

Bulent Cavusoglu
"Real-Time Content-Based Video Communications over Heterogeneous Networks"
(Jointly Supervised with Prof. Rashid Ansari)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2005
Current Position: Professor, Ataturk University, Erzurum, Turkey.

Faisal Bashir
"MotionSearch: Object Motion Trajectory-Based Video Search and Classification System"
(Jointly Supervised with Prof. Ashfaq Khokhar)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2006
Internship: Mitsubishi Electric Research Laboratory (MERL), USA.
Former Position(s): Intern, Mitsubishi Electric Research Laboratory (MERL), Cambridge, Massachusetts, USA; Senior Imaging Scientist, Retica Systems, Inc., Waltham, Massachusetts, USA; Senior Vision Engineer, Heartland Robotics, Cambridge, Massachusetts, USA.
Current Position: Senior Principal Engineer – Advanced Development Group, Security and Detection Systems, L-3 Communications, Woburn, Massachusetts, USA.

Wei Qu
"Real-Time Distributed Video Tracking of Multiple Objects from Single and Multiple Cameras"
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2006
Internship: Mitsubishi Electric Research Laboratory (MERL), USA; Siemens Medical Systems, USA.
Former Position(s): Senior Research Scientist, Motorola Research Labs, Schaumburg, Illinois, USA; Senior Scientist, Siemens Medical Solutions USA, Hoffman Estates, Illinois, USA; Associate Professor, Graduate University of Chinese Academy of Sciences, Beijing, China; CEO Special Assistant, Director of Technology, President of CSST Research, Hong Kong; Vice President, R&D, Special Assistant to CEO, President of Beijing Research Institute, Beijing, China; Co-Founder, SmartVision Technology, Beijing, China.
Current Position: President, Artificial Intelligence Research Institute, New Oriental Education & Technology Group Inc., Beijing, China.

Nidhal Bouaynaya
"Analysis of Proteomics and Genomics Based on Signal Processing and Communication Theory"
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2007
Former Position: Assistant Professor, Department of Systems Engineering, University of Arkansas at Little Rock, Little Rock, Arkansas, USA.
Current Position: Associate Dean for Research & Graduate Studies, Rowan University, Glassboro, New Jersey, USA.

Hunsop Hong
Constrained and Hierarchical Density Estimation for Image Reconstruction and Sensor Networks
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2008
Current Position: Senior Research Engineer, Samsung Information Systems America, Irvine, California, USA.

Pan Pan
Video Tracking Based on Particle Filters: Particle Allocation, Graphical Models, and Performance Evaluation
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2009
Internship: NTT Research Laboratory, Japan; Mitsubishi Electric Research Laboratory (MERL), USA.
Former Position: Senior Researcher, Project Manager, Fujitsu Research and Development, Beijing, China.
Current Position: Technical Director, Alibaba Group, Beijing, China.

Xiang Ma
Motion Trajectory-Based Video Retrieval and Recognition: Tensor Analysis and Multi-Dimensional Hidden Markov Models
(Jointly Supervised with Prof. Ashfaq Khokhar)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2009
Internship: Knowledge Media Institute, Open University, United Kingdom; Siemens Medical Solutions USA, Hoffman Estates, Illinois, USA; Computer Vision Research Engineer, IntuVision, Inc., Woburn, Massachusetts, USA.
Former Position: Senior Research Scientist and Engineer, IntuVision, Inc., Woburn, Massachusetts, USA; Lead Engineer – 3D Maps & Reality Capture Processing, Nokia, Chicago, Illinois, USA; Research Manager, Manager of Engineering – Computer Vision, Artificial Intelligence R&D, HERE Technologies, Chicago, Illinois, USA.
Current Position: Applied Science Manager – Computer Vision and Artificial Intelligence, Amazon, Boston, Massachusetts, USA.

Junlan Yang

Virtual Video Enhancement for Handheld Mobile Cameras: Stabilization, Auto-Focus, and Super-Resolution
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2009
Internship: Ricoh Research Laboratory, Menlo Park, California, USA; Sharp Laboratories of America, USA.
Former Position: Senior Software Engineer, iKoa Corporation, Menlo Park, California, USA; Research Scientist, Marseille Networks, Santa Clara, California, USA.
Current Position: Software Engineer, Google LLC, Mountain View, California, USA.

Chong Chen
Multi-Camera Vision Systems: Distributed Pose Estimation and Plenoptic Imaging
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2009
Internship: Siemens Research Laboratory, USA; FX Palo Alto Laboratory (FXPAL), USA; Abbott Laboratories, USA.
Former Position: Senior Research Engineer, Samsung Information Systems America, Irvine, California, USA.
Current Position: Video Engineer, Apple, Cupertino, California, USA.

Xu Chen
Localization and Trajectory Estimation of Mobile Objects from a Single Sensor
(Jointly Supervised with Prof. Ashfaq Khokhar)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Internship: Institute of Electrical Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland; Kodak Research Laboratories, USA.
Former Position(s): Postdoctoral Fellow, Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, Michigan, USA; Postdoctoral Fellow, Department of Electrical and Computer Engineering, Duke University, Durham, North Carolina, USA; Senior Researcher, Sharp Laboratories of America, Camas, Washington, USA.
Current Position: Senior Machine Learning Developer, SAS, Cary, North Carolina, USA.

Lei Gao
Compiler Optimization for Translating Software Binaries onto FPGAs
(Jointly Supervised with Prof. Prith Banerjee)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Internship: Binachip, Inc., Chicago, Illinois, USA.
Former Position: Senior Engineer, Binachip, Inc., Chicago, Illinois, USA.
Current Position: Staff R&D Engineer, Synposis, Inc., Marlborough, Massachusetts, USA.

Liuling Gong

Machine Learning for Signal Processing:
Geometry, Kernels, and Symbolic Sequences
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Internship: eBay Research Labs, USA.
Former Position: Postdoctoral Fellow, Center for the Study of Complex Systems, University of Michigan, Ann Arbor, Michigan, USA; Seismic Imager, CGGVeritas, Houston, Texas, USA; Data Scientist, GE Oil & Gas, Houston, Texas, USA.
Current Position: Data Scientist, Equinor, Houston, Texas, USA.

Songqing Zhao
Multiple Description Coding for Correlated Multi-Path Networks
(Jointly Supervised by Profs. Rashid Ansari and Daniela Tuninetti)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Internship: Mitsubishi Electric Research Laboratory (MERL), USA.
Former Position: Voice and Data Quality Engineer, Voice & Data Quality and Performance Analysis Group, Alcatel-Lucent, Murray Hill, New Jersey, USA.
Current Position: Senior Wireless Engineer, Apple, Cupertino, California, USA.

Xiangqiong Shi
Bayesian Networks: Performance Analysis of Loopy Belief Propagation
(Jointly Supervised with Prof. Daniela Tuninetti)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2011
Internship: Motorola Research Labs, Schaumburg, Illinois, USA; Technicolor, Research & Innovation, Princeton, New Jersey, USA; Nokia Research Center, Palo Alto, California, USA.
Former Positions: Software Engineer, Volkswagen of America, Electronics Research Lab, Herndon, Virginia, USA; Software Engineer, Apple, Cupertino, California, USA.
Current Position: Software Engineer, Ouster, San Francisco, California, USA.

Liming Wang
Genomic Signal Processing and Regulatory Networks: Representation, Dynamics and Control
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2011
Former Position: Postdoctoral Fellow, Department of Electrical Engineering, Columbia University, New York, New York, USA; Postdoctoral Associate, Department of Electrical and Computer Engineering, Duke University, Durham, North Carolina, USA; Postdoctoral Associate, Department of Electrical and Computer Engineering, Ohio State University, Columbus, Ohio, USA.
Current Position: Lead Data Scientist, HERE Technologies, Chicago, Illinois, USA.

Jing Huang
Distributed Signal and Image Processing:

Particle Filters, Context Grammars, and Dynamic Games
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2013
Internship: Fuji Xerox Palo Alto Laboratory (FXPAL), Palo Alto, California, USA; Motorola Mobility, Applied Research Center, Libertyville, Illinois, USA; Nokia Research Center, Berkeley, California, USA.
Former Positions: Software Development Engineer, TeraRecon, Inc., Foster City, California, USA; Senior Deep Learning Software Engineer, Intel Artificial Intelligence, Intel Corporation, Santa Clara, California.
Current Position: Software Engineer, Microsoft Artificial Intelligence & Research, Bellevue, Washington, USA.

Qun Li
Multilinear Algebra in High-Order Data Analysis: Retrieval, Classification and Representation
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2013
Internship: Xerox Research Center, Xerox Innovations Group, Webster, New York, USA.
Former Positions: Research Scientist, Xerox Research Center, Xerox Innovations Group, Webster, New York, USA; Research Scientist, PARC, A Xerox Company, Palo Alto, California, USA.
Current Position: Senior Data Scientist, Microsoft, Bellevue, Washington, USA;

Johnson Jonaris GadElkarim Keiriz
From Micro to Macro: A Study of Human Brain Structure Based on Diffusion MRI and Neuronal Networks
(Jointly Supervised by Profs. Alex Leow and Richard Magin)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2013
Former Position: Postdoctoral Fellow, Department of Psychiatry, University of Illinois, Chicago, Illinois, USA; Lead Developer, nView medical Inc., Salt Lake City, Utah, USA; Research Scientist, Tamaggo, Montreal, Quebec, Canada; Research Scientist – Senior Software Engineer, Object Research Systems (ORS) Inc., Montreal, Quebec, Canada; Research Associate, Electronic Visualization Laboratory (EVL), University of Illinois at Chicago (UIC), Chicago, Illinois; USA.
Current Position: Principal CT Software Engineer, Canon Medical Research USA, Inc. Vernon Hills, Illinois, USA.

Lingdao Sha
When Sparsity Meets Graphs, Images, Structured and High-Dimensional Data
(Jointly Supervised with Prof. Jing Wang)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2018
Current Position: Senior Machine Learning Scientist, Tempus Labs, Inc., Chicago, Illinois, USA.

Haoyu Wang

Depth-constrained Feature-based Stitching System for Stereoscopic Panoramic Video Generation
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2019
Current Position: Computer Vision Engineer, Blackmagic Design, Colorado Springs, Colorado, USA.

Mehdi Sharifzadeh
Steganography and Steganalysis of Raw and Compressed Image Data
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2019
Internships: Software Engineering Intern, Google Brain, Mountain View, California, USA; Data Scientist Intern, Western Digital, Milpitas, California, USA; Data Scientist Intern, SanDisk, Milpitas, California, USA.
Previous Position: Research Engineer, Snap, Inc., Santa Monica, California, USA.
Current Position: Senior Software Engineer, Google, Inc., Los Angeles, California, USA.

Chirag Agarwal
Robustness and Explainability of Deep Neural Networks: Architectures and Applications
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2020
Internships: Research Intern, Geisinger Health Systems, Danville, Pennsylvania, USA; Research and Development Intern, Kitware Inc., Clifton Park, New York, USA; Imaging Science Intern, Tempus Labs Inc., Chicago, Illinois, USA; Computer Vision / Augmented Reality Intern, Robert Bosch LLC, Farmington Hills, Michigan, USA.
Previous Position: Postdoctoral Research Fellow, Department of Computer Science, Department of Biomedical Informatics, and Business School, Harvard University, Cambridge, Massachusetts, USA.
Current Position: Research Scientist, Media and Data Science Research Laboratory, Adobe Research, Bangalore, India.

Mohammed Aloraini
Digital Media Forgery Detection
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2020
Current Position: Assistant Professor, Head of Electrical Engineering Department, Vice Dean of Academic Affairs, Qassim University, Buraydah, Qassim, Saudi Arabia.

Igor Fortel
Excitation-Inhibition Balance: A Study of Brain Network Dynamics Using Statistical Mechanics
(Jointly Supervised by Prof. Alex Leow)
Video Steganography
Department of Biomedical Engineering
University of Illinois at Chicago
Chicago, Illinois
2021

Current Position: Systems Design Engineer, T-Mobile, Chicago, Illinois; Research Specialist, University of Illinois at Chicago, Chicago, Illinois.

O.5. Masters Thesis Students

Vladimir Pavlovic
"Stochastic Noise Process Enhancement of Hopfield Neural Networks"
(Jointly Supervised with Prof. Gary Friedman)
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1993
Position: Associate Professor, Department of Computer Science, Rutgers University, New Jersey, USA.

Deepak K. Bal
"Transmission of Real-Time MPEG-2 Video Over Differentiated Services Networks"
(Jointly Supervised with Prof. Rashid Ansari)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2003
Position: Takata, Inc., Michigan, USA.

Karthik Hariharakrishnan
"Visual Tracking: New Methods Using Adaptive Block Matching and Particle Filters"
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2003
Internship: NeoMagic Corp., USA.
Previous Position(s): National Instruments, India; Motorola, India; Senior Design Engineer, ARM, Ltd., United Kingdom.
Current Position: Staff Software Engineer, ARM, Ltd., United Kingdom.

Subhash Balam
"Associative Processors for Video Coding"
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2004
Position: Senior Staff Engineer/Manager, Qualcomm Corp., California, USA.

Emir Mulabegovic
"Lightweight Streaming Protocol for Real-Time Video Communications"
(Jointly Supervised with Prof. Rashid Ansari)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2005

Former Position: PCTEL, Illinois, USA.
Current Position: Systems Architect, Personal, Inc., Sarajevo, Bosnia and Herzegovina.

Andrea De Mauro
"A Peer-to-Peer Network for Real-Time Multiple-Description Video Communications Using Multiple Paths"
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2006
Former Position: Financial Solutions Systems Analyst, Procter & Gamble, Newcastle, United Kingdom.
Current Position: Business Intelligence Manager, Procter & Gamble, Newcastle, Rome, Italy.

Claudio Rossi
"A Partially-Reliable Multihomed Transport Protocol for Real-Time Multiple-Description Multimedia Traffic"
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2006
Position: Area Manager, IBM, Milan, Italy.

Amita Talati
Design and Evaluation of Data Compression and Decompression Applications on Field Programmable Gate Arrays
(Jointly Supervised with Prof. Prith Banerjee)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2008
Former Position: Customer Applications Engineer, Newark Corporation, Cleveland, Ohio, USA.
Current Position: Senior Engineer, Newark Corporation, Cleveland, Ohio, USA.

Carlo Giulietti
A Novel Cache Optimization Algorithm and Protocol for Video Streaming in Pure Peer-to-Peer Networks
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010
Position: Software Engineer, Astek, Sophia Antipolis, France.

Edmond Gjondrekaj
Clustering and Similarity Analyses of miRNA Assay by Means of Reprogrammable Devices
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2010

Alberto Mannari
Enhanced Frame Buffer Management for HEVC Encoders and Decoders

Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2015
Position: Specialist Electronics Engineer, Teoresi Inc., Burr Ridge, Illinois.

Vasundhara Goyal
Generation of Stereoscopic Video From Monocular Image Sequences Based on Epipolar Geometry
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2017

Akreem Talal Mohammed Saeed
Location Based Assistant on Android Platform
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2017

Lorenzo Norcini
Attention-Guided Mask Propagation for Video Object Segmentation
Department of Computer Science
University of Illinois at Chicago
Chicago, Illinois
2019
Position: Software Engineer, Amazon, Seattle, Washington.

Francesca Pistilli
GraphPointNet: Graph Convolutional Neural Network for Point Cloud Denoising
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2019
Position: Doctoral Student, Politechnico di Torino, Turin, Italy.

Francesco Donato
CoTraM: Convolutional Transformer for Multichannel Time-Series Classification
Department of Electrical & Computer Engineering
University of Illinois at Chicago
Chicago, Illinois
2023
Position: TBD.

O.6. Masters Project Students

Neil Zalut
"Linear Restoration of Medical Images: An Overview"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago

Chicago, Illinois
1993

Branislav Kisacanin
"A Fast Thresholded Linear Convolution Representation of Morphological Operations"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1993

Alan Baumgartner
"Morphological Segmentation of Computed Tomography Images"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1994

Alvin Ng
"Spatially-Variant Morphological Skeleton Representation"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1994

Smriti Anand
"Efficient Fast Reconstruction Algorithms in Computerized Tomography"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois, May 1995

Stephan W. Wegerich
"Subband Image Restoration and Blur Identification Using the EM Algorithm and Cross-Filtering"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1995

Robert Werckmeister
"Performance Analysis of Video Communications in Multimedia Networks"
(Jointly Supervised with Prof. Ouri Wolfson)
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1996

Margaret Kelton
"A Fast Method for Transform Conversion for Use in Image Processing"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1998

Kailash Ravishankar
"Frequency Prediction of High-Order Autoregressive Moving Average Sequences"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1998

Amir Yafe
"Transmission of MPEG-2 Streams Over Packet-Switched Networks"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1998

Steven J. Doering
"Digital Modulation: Applications to CDMA Communication Systems (IS-95)"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1999

Abhijit Bhattacharya
"MPEG-1 and H.263 Video Decoding on Motorola GSM Cellular Phone"
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
1999

Qin Cai
"Differentiated Transmission of MPEG-2 Video Bitstream Over Communication Networks"
(Jointly Supervised with Prof. Rashid Ansari)
Department of Electrical Engineering and Computer Science
University of Illinois at Chicago
Chicago, Illinois
2000

P. RESEARCH GRANTS

D. Schonfeld (PI)
"Morphological image representation: Theory and applications"
Office of Naval Research (ONR)
$150,000
1991-1995

S. Corson (PI) and D. Schonfeld (Co-PI)
"Parallel processing research"
University of Illinois
Campus Research Board (CRB)

NEC, Exh. 2002, p, 81
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$14,995
1994-1995

R. Ansari (PI), P. Hesketh (Co-PI), and D. Schonfeld (Co-PI)
"One-step process for instant ticket validation"
GTECH Corporation
$5,000
1997

D. Schonfeld (PI)
"National Communications Forum"
International Engineering Consortium (IEC)
$500
2000

D. Schonfeld (PI)
"Real-Time Very-Low Bit-Rate MPEG-4 Video Compression for Wireless Communication Application"
Neomagic Corporation
$69,553
2001-2003

A. Khokhar (PI), R. Ansari (Co-PI), R. Grossman (Co-PI), D. Schonfeld (Co-PI), and C. Yu (Co-PI)
"High-Speed Terabyte Storage Server Based on Intelligent Disk Technology"
Army Research Office (ARO)
DURIP Program
$422,626
2002-2004

D. Schonfeld (PI)
"Computer Architectures for Real-Time Video Communications"
Neomagic Corporation
$76,075
2002-2004

M. Dutta (PI) et al.
"Design of a Super-Biological Eye Sensor System"
Defense Advanced Research Projects Agency (DARPA)
Army Research Office (ARO)
$200,000 (Seed Project)
2002-2003

D. Schonfeld (PI)
"OMAP Code Composure Studio Software for Real-Time Video Communications"
Texas Instruments, Inc.
DSP University Program
$4,500
2003

D. Schonfeld (PI)
"Real-Time Object Tracking of Video Sequences on Associative Processor Arrays"

Neomagic Corporation
$68,750
2003-2005

D. Schonfeld (PI)
"Real-Time Low-Power High-Quality Interactive Video Telephony
for Wireless Communication Applications"
Motorola, Inc.
$19,331
2004-2005

D. Schonfeld (PI)
"Real-Time Low-Power High-Quality Interactive Video Communications
for Video Animation and Stereography"
Motorola, Inc.
$22,000
2005-2006

D. Schonfeld (PI)
"Real-Time High-Quality Video Communications from Handheld Cameras
Using Video Stabilization and Auto-Focus"
Motorola, Inc.
$75,000
2005-2008

D. Schonfeld (PI)
"Interactive Video Communications Based on Stereographic Imaging
From a Single Camera"
Motorola, Inc.
$22,000
2006-2007

A. Khokhar (PI) and D. Schonfeld (Co-PI)
"MotionSearch: Motion Trajectory-Based Object Activity Retrieval and Recognition from Video
and Sensor Databases"
National Science Foundation (NSF)
$410,000
2006-2009

D. Schonfeld (PI)
"Real-Time Financial Forecasting Based on Statistical Signal Processing:
Correlation Analysis and Fast Algorithms"
Gelber Group
$66,522
2006-2007

D. Schonfeld (PI)
"Signal Communication and Processing in a RFID Sensor Network System"
Your Life Essentials
$4,000
2006-2008

D. Schonfeld (PI)
"MobilePlenoptics: Panoramic Video Communications in Mobile Devices"
Motorola, Inc.
$22,000
2007-2008

D. Schonfeld (PI)
"Machine Learning and Event Detection in Biological Systems"
VG Bioinformatics, Inc.
$40,000
2007-2008

A. Khokhar (PI) and D. Schonfeld (Co-PI)
"International Supplement to MotionSearch: Motion Trajectory-Based Object Activity Retrieval and Recognition from Video and Sensor Databases"
National Science Foundation (NSF)
$37,468
2007-2008

D. Schonfeld (PI)
"InteractiveVision: Collaborative Multiple-Input-Multiple-Output Inverse Problems with Application in Image and Video Processing"
National Science Foundation (NSF)
$232,496
2007-2010

A. Khokhar (PI) and D. Schonfeld (Co-PI)
"Research Experiences for Undergraduates (REU) Supplement to MotionSearch: Motion Trajectory-Based Object Activity Retrieval and Recognition from Video and Sensor Databases"
National Science Foundation (NSF)
$12,000
2008-2009

D. Schonfeld (PI)
"Real-time Superresolution for Enhanced Video Streaming"
iKoa Corporation
$25,000
2008-2009

D. Schonfeld (PI)
"Tracking Performance Evaluation based on a Reflective Model and Perturbation Analysis"
Mitsubishi Electric Research Laboratories (MERL)
$1,228
2009

R. Magin (PI), M. Ragozzino (Co-PI), K. Rockne (Co-PI), T. Royston (Co-PI), and D. Schonfeld (Co-PI)
"Acquisition of a High Field Magnetic Resonance Imaging System for Science and Engineering Research"
National Science Foundation (NSF)

$1,995,000
2009

D. Schonfeld (PI), N. Bouaynaya (Key/Senior Personnel), and H.M. Fathallah-Shaykh (Key/Senior Personnel)
"Minimal-Perturbation Dynamic Control of the Melanoma Gene Regulatory Network" (R01)
National Institutes of Health (NIH)
$1,200,000
2010-2015

X. Joe Zhou (PI), D. Schonfeld (Co-PI), H. Engelhard (Co-PI), R. Magin (Co-PI), and T. Valyi Nagy (Co-PI)
"Probing Intra-voxel Tissue Heterogeneity Using MRI" (R01)
National Institutes of Health (NIH)
NIH R01EB026716-01
$2,173,399
2018-2023

D. Schonfeld (PI)*
"University of Illinois - New Oriental Artificial Intelligence Research Laboratory (UINO-AIRL)"
New Oriental Education & Technology Group Inc.
$1,600,425
2019-2024
* Funding was approved by the research sponsor but declined by the university because of potential conflict with export controls.

B. Prasad (PI), D. Schonfeld (Co-Investigator), S. Basu (Collaborator), M. Maienschein-Cline (Collaborator)
"Machine Learning and Exosome Derived Biomarkers of Obstructive Sleep Apnea Induced Hypertension"
National Institutes of Health (NIH)
NIH 1R56HL157182-01A1
$676,935
2022-2023

Q. ADMINISTRATIVE ACTIVITIES

Q.1. Administrative Positions

Director
University-Industry Engineering Research Center (UIERC)
College of Engineering
University of Illinois at Chicago
2008—2011

Supervisor
Web Development
Department of Electrical & Computer Engineering

University of Illinois at Chicago
2001—2002

Director
Timetable Schedule
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1999—2000

Q.2. University Committees

Co-Chair
University All-Campus Promotion and Tenure Committee
University of Illinois at Chicago
2010—2011

Member
Graduate College Executive Committee
University of Illinois at Chicago
2020—2022

Member
COVID-19 Relief Fund Application Review Committee
University of Illinois at Chicago
2022

Member
Dean Review Committee
University of Illinois at Chicago
2017—2018

Member
Graduate Mentor Award Committee
University of Illinois at Chicago
2014—2016

Member
Chancellor's Graduate Research Fellowship Program
University of Illinois at Chicago
2014—2016

Member
University Vision and Strategy
University of Illinois at Chicago
2012—Present

Member
University Ad-Hoc Advisory Committee for the Office of Faculty Affairs
University of Illinois at Chicago
2012—2013

Member
University Task Force to Review Non-Tenure Promotion Guidelines
University of Illinois at Chicago
2011—2012

Member
University Promotion and Tenure Norms and Criteria Committee
University of Illinois at Chicago
2011—2012

Member
University Honorary Degree Nominating Committee
University of Illinois at Chicago
2010—2011

Member
University Promotion and Tenure Seminar Panel
Natural Science, Health Science, and Engineering
University of Illinois at Chicago
2010—2011

Member
University All-Campus Promotion and Tenure Committee
University of Illinois at Chicago
2008—2011

Member
University Campus Research Board Committee
University of Illinois at Chicago
2001—2004

Member
University Awards Committee
University of Illinois at Chicago
1998—2001

Member
Student Appeals Board
University of Illinois at Chicago
2004—2005

Q.3. College Committees

Member
College Executive Committee
College of Engineering
University of Illinois at Chicago
2009-2012, 2015-2017; 2019-2020; 2022-2023

Member
Dean of the College of Engineering Search Committee
College of Engineering
University of Illinois at Chicago
2007-2008

Member
Wexler Chair in Information Technology Search Committee
College of Engineering
University of Illinois at Chicago
2006

Member
Advisory Committee for Bioinformatics Program in Bioengineering
University of Illinois at Chicago
2000—2010

Chair
Networking Curriculum Subcommittee
College of Engineering
University of Illinois at Chicago
2005

Member
Departmental Reorganization and Formation Committee
College of Engineering
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1999—2000

Q.4. Departmental Committees

Mentoring Coordinator
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2021—Present

Chair
Departmental Faculty Search Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2006-2008; 2010-2011; 2016-2017

Chair
Departmental Grievance Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2013—2019

Chair

Departmental Research & Colloquium Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1996—1998; 2003—2004

Chair
Departmental Seminar Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2008—2010

Chair
Departmental Web Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2001—2003

Chair
Departmental Web & Computer Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2020-2021

Member
Department of Mathematics, Statistics, and Computer Science
Personnel Review Committee for Jing Wang
2020—2021

Member
Departmental Advisory Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1995—1996; 1998—1999; 2000—2002; 2004—2005; 2007—2010; 2015—2016; 2022—Present

Member
Departmental Computer Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1990—1992; 2001—2004

Member
Departmental Computer & Web Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2013—2016

Member
Departmental Diversity & Inclusion Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2020—2021

Member
Departmental Electronics Instructional Laboratory Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1997—1998

Member
Departmental Faculty Search Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1994—1995; 1998—2001; 2006—2008; 2010-2011; 2016—2017; 2021—Present

Member
Departmental Graduate Admission and Recruitment
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2022—2023

Member
Departmental Graduate Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1995—2000; 2011—2015

Member
Departmental Grievance Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2012—2021

Member
Departmental Promotion & Tenure Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1996—Present

Member
Departmental Research & Colloquium Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1992—1998; 2001—2004

Member
Departmental Scholarship Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1990—1996

Member
Departmental Scholarship & Awards Committee

Department of Electrical & Computer Engineering
University of Illinois at Chicago
2019—2023

Member
Departmental Seminar Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2008—2013

Member
Departmental Undergraduate Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1998 – 2003; 2005 – 2011; 2015—2019; 2023 – Present

Member
Departmental Web Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2000—2011

Member
Departmental Web & Computer Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2019-2021

Q.5. Curriculum Committees

Chair
Departmental Communications and Networks Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2001—2002; 2004

Chair
Departmental Signal Processing Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2011

Member
Departmental Communications Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical & Computer Engineering
University of Illinois at Chicago

2011

Member
Departmental Communications and Networking Curriculum Subcommittee
of the Undergraduate and Graduate Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2001—2002; 2004

Member
Departmental Computer Engineering Curriculum Subcommittee
of the Undergraduate and Graduate Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1998—2002

Member
Departmental Electrical Engineering Curriculum Subcommittee
of the Undergraduate and Graduate Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1996—2000

Member
Departmental Imaging Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1993

Member
Departmental Information and Computer Systems Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2011

Member
Departmental Masters of Engineering Program Subcommittee
of the Graduate Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2005

Member
Departmental Multimedia Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
2005

Member
Departmental Networking Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1999—2000; 2005

Member
Departmental Signals and Systems Curriculum Subcommittee
of the Graduate Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2004

Member
Departmental Signal Processing Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2011

Member
Departmental Signal Processing and Communications Curriculum Subcommittee
of the Undergraduate and Graduate Committees
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1991

Member
Departmental Student Cheating Policy Subcommittee
of the Undergraduate Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1999

Member
Departmental Teaching Assistant Assignment Subcommittee
of the Undergraduate Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1996—1997

Member
Departmental Teaching Assistant Award Subcommittee
of the Scholarship Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1994

Q.6. Qualifier Committees

Chair
Departmental Communications Qualifier Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2003—2004; 2012

Chair
Departmental Computer Communication Network Qualifier Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2002—2003; 2005

Chair
Departmental Signal Processing Qualifier Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1991—1995; 2001; 2002; 2008—2014, 2015—Present

Member
Departmental Communications Qualifier Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1997—2004; 2009—2014

Member
Departmental Computer Communications Networks Qualifier Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
2002—2005

Member
Departmental Computer Vision Qualifier Committee
Department of Electrical Engineering & Computer Science
University of Illinois at Chicago
1993—2001

Member
Departmental Signal Processing Qualifier Committee
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1991—2001; 2004—Present

Q.7. Research Laboratories and Centers

Director
University-Industry Engineering Research Center (UIERC)
College of Engineering
University of Illinois at Chicago

2008—2011

Co-Director
Multimedia Communications Laboratory (MCL)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1997—Present

Member
Departmental Signal and Image Research Laboratory (SIRL)
Department of Electrical & Computer Engineering
University of Illinois at Chicago
1991—2002

R. TEACHING ACTIVITIES

R.1. The Johns Hopkins University

ECE 137
Digital Signals and Systems
Fall 1987

ECE 137
Digital Signals and Systems
Fall 1988

ECE 137
Digital Signals and Systems
Fall 1989

R.2. University of Illinois at Chicago

EECS 212
Signal Processing
Fall 1990

EECS 212
Signal Processing
Winter 1991

EECS 416
Advanced Topics in Digital Signal Processing
Spring 1991

EECS 417
Digital Signal Processing
Fall 1991

EECS 554
Estimation Theory
Fall 1991

EECS 311
Communication Engineering
Spring 1992

EECS 554
Estimation Theory
Fall 1992

EECS / BioE 479
Real-Time Data Processing
Spring 1993

EECS / BioE 479
Real-Time Data Processing
Fall 1993

EECS 516
Optimal and Adaptive Digital Filters
Fall 1993

EECS 517
Image Processing
Spring 1994

EECS / BioE 479
Real-Time Data Processing
Fall 1994

EECS 517
Image Processing
Spring 1995

EECS 531
Detection and Estimation Theory
Spring 1995

EECS / BioE 479
Real-Time Data Processing
Fall 1995

EECS 517
Image Processing
Spring 1996

EECS 531
Detection and Estimation Theory
Spring 1996

NEC, Exh. 2002, p, 96
Peloton v. NEC, IPR2023-01239

EECS 530
Statistical Communication Theory
Fall 1996

EECS 517
Image Processing
Spring 1997

EECS / BioE 407
Pattern Recognition
Fall 1997

EECS 530
Statistical Communication Theory
Fall 1997

EECS / BioE 407
Pattern Recognition
Spring 1998

EECS 517
Image Processing
Spring 1998

EECS 517
Image Processing
Motorola Campus
Spring 1998

EECS 171
Introduction to Programming
Summer 1998

EECS 516
Optimal and Adaptive Digital Filters
Fall 1998

EECS 530
Statistical Communication Theory
Motorola Campus
Fall 1998

EECS 418
Digital Signal Processing II
Spring 1999

EECS 517
Image Processing
Spring 1999

NEC, Exh. 2002, p, 97
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EECS 531
Detection and Estimation Theory
Motorola Campus
Spring 1999

EECS 171
Introduction to Programming
Summer 1999

EECS 417
Digital Signal Processing I
Fall 1999

EECS 491
Multimedia Communication Networks
Spring 2000

EECS 311
Communication Engineering
Summer 2000

EECS 491
Multimedia Communication Networks
Internet Course (Preparation)
Fall 2000

EECS 516
Optimal and Adaptive Digital Filters
Fall 2000

EECS 531
Detection and Estimation Theory
Fall 2000

EECS 491
Multimedia Communication Networks
Internet Course
Spring 2001

EECS 517
Image Processing
Spring 2001

EECS 171
Introduction to Programming
Summer 2001

ECE 516
Optimal and Adaptive Digital Filters
Fall 2001

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ECE 531
Detection and Estimation Theory
Fall 2001

ECE 434
Multimedia Communication Networks
Internet Course
Spring 2002

ECE 517
Image Processing
Spring 2002

CS 102
Introduction to Programming
Summer 2002

ECE 433
Computer Communication Networks
Fall 2002

ECE 434
Multimedia Communication Networks
Fall 2002

ECE 333
Computer Communication Networks
Laboratory (Preparation)
Spring 2003

ECE 311
Communication Engineering
Fall 2003

ECE 434
Multimedia Communication Networks
Fall 2003

ECE 517
Image Processing
Spring 2004

ECE 434
Multimedia Communication Networks
Fall 2004

ECE 516
Optimal and Adaptive Digital Filters
Fall 2004

ECE 517

NEC, Exh. 2002, p, 99
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Image Processing
Spring 2005

ECE 311
Communication Engineering
Summer 2005

ECE 434
Multimedia Systems
Fall 2005

ECE 516
Optimal and Adaptive Digital Filters
Fall 2005

ECE 517
Image Processing
Spring 2006

ECE 311
Communication Engineering
Summer 2006

ECE 434
Multimedia Systems
Fall 2006

ECE 516
Optimal and Adaptive Digital Filters
Fall 2006

ECE 531
Detection and Estimation Theory
Spring 2007

ECE 311
Communication Engineering
Summer 2007

ECE 434
Multimedia Systems
Fall 2007

ECE 516
Optimal and Adaptive Digital Filters
Fall 2007

ECE 531
Detection and Estimation Theory
Spring 2008

NEC, Exh. 2002, p, 100
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ECE 434
Multimedia Systems
Fall 2008

ECE 516
Optimal and Adaptive Digital Filters
Fall 2008

ECE 530
Random Signal Analysis
Spring 2009

ECE 517
Image Processing
Fall 2009

ECE/BIOE 407
Pattern Recognition
Spring 2010

ECE 434
Multimedia Systems
Fall 2010

ECE 530
Random Signal Analysis
Spring 2011

ECE 434
Multimedia Systems
Fall 2011

ECE 530
Random Signal Analysis
Spring 2012

ECE 594
Machine Learning
Spring 2012

ECE 434
Multimedia Systems
Fall 2012

ECE 517
Image Processing
Fall 2012

ECE 530
Random Signal Analysis
Spring 2013

NEC, Exh. 2002, p, 101
Peloton v. NEC, IPR2023-01239

ECE 434
Multimedia Systems
Fall 2013

ECE 517
Image Processing
Fall 2013

ECE 434
Multimedia Systems
Fall 2014

ECE 517
Image Processing
Fall 2014

ECE 434
Multimedia Systems
Fall 2015

ECE 517
Image Processing
Fall 2015

ECE 434
Multimedia Systems
Fall 2015

ECE 517
Image Processing
Fall 2015

ECE 407
Patten Recognition
Spring 2016

ECE 530
Random Signal Analysis
Spring 2016

ECE 434
Multimedia Systems
Fall 2016

ECE 517
Image Processing
Fall 2016

ECE 407
Patten Recognition

Spring 2017

ECE 434
Multimedia Systems
Fall 2017

ECE 517
Image Processing
Fall 2017

ECE 517
Image Processing
Spring 2018

ECE 530
Random Signal Analysis
Spring 2018

ECE 434
Multimedia Systems
Fall 2018

ECE 517
Image Processing
Fall 2018

ECE 530
Random Signal Analysis
Spring 2019

ECE 434
Multimedia Systems
Fall 2019

ECE 517
Image Processing
Spring 2020

ECE 530
Random Signal Analysis
Spring 2020

ECE 434
Multimedia Systems
Fall 2020

ECE 530
Random Signal Analysis
Spring 2021

ECE 531

Detection and Estimation Theory
Spring 2021

ECE 434
Multimedia Systems
Fall 2021

ECE 517
Image Processing
Fall 2021

ECE 530
Random Signal Analysis
Spring 2022

ECE 531
Detection and Estimation Theory
Spring 2022

ECE 434
Multimedia Systems
Fall 2022

ECE 517
Image Processing
Fall 2022

ECE 530
Random Signal Analysis
Spring 2023

ECE 434
Multimedia Systems
Fall 2023

ECE 517
Image Processing
Fall 2023

ECE 317
Digital Signal Processing I
Spring 2024

R.3. University of Trento

Content-Based Video Analysis: Tracking, Retrieval, and Classification
Information and Communication Technology (ICT) – International Doctoral School
Department of Information Engineering and Computer Science
University of Trento

May 2010

NEC, Exh. 2002, p, 105
Peloton v. NEC, IPR2023-01239