Nader F. Mir

Curriculum Vitae (CV) - Last Update: Sep. 1, 2023

Nader F. Mir
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www.sjsu.edu/people/nader.mir

Education

- *Ph.D.* Degree: May 1995, Doctor of Science in Electrical Engineering, Washington University.
  Research Concentration: Analysis of High-Speed Switching Systems in Computer Networks

- *M.Sc.* Degree: Dec.1990, Master of Science in Electrical Engineering, Washington University.
  Specialization: Design and Analysis of Computer and Communication Networks and Protocols.

- *B.Sc.* Degree: May 1985, Bachelor of Science in Electrical Engineering, Polytechnic University.
  Concentration: Communications Electronics.
  Rank: top 5%.

Areas of Specialization

- Computer Networks/Protocols, TCP/IP, Virtualization, AI, Cloud Data Centers, Net. Security
- Internet Applications, Web, VoIP, Video Streaming, Multimedia Signaling/Networking, and CDNs
- Networking Devices, Switches, Routers, Gateways, Virtual Switches, SDN and NFV Devices
- Signaling in Wireless Mobile and Telecommunication Networks: SIP, IoT, and Wireless Sensor Networks.

Professional Career Summary

- August 2005 to Present:
  - ***Full Professor*** (2005-present)**,** Dept. of Electrical Eng., San Jose State University (SJSU), California.
  - ***Department Associate Chair*** (2006 – 2008), Department of Electrical Engineering, SJSU, California.
  - ***Director*** (2006 – 2017), University's graduate programs offered to three Silicon Valley companies.
  - ***Patent Litigation Consultant*** (since 2006), for various leading technology corporations (ie Google, Netflix)

- August 2001 to July 2005:
  Associate Professor, Department of Electrical Engineering, San Jose State University, California.

- August 1996 to July 2001:
  Assistant Professor, Department of Electrical & Computer Eng., University of Kentucky, Lexington, KY.

- January 1995 to June 1996:
  ***Research Scientist Engineer*:** in charge of analyzing communications and high-speed computer networking projects, Advanced Telecommunications Institute, Stevens Institute of Technology, Hoboken, New Jersey.

- September 1989 to January 1995:
  Research Assistant, Computer & Communications Research Center, Washington University, St. Louis.

- May 1985 to December 1988:
  Telecomm R&D Engineer (in charge of engineering projects in telecommunication engineering), Telecommunication Research & Development Center (TRDC), Surrey.

CONSULTING, INDUSTRY, AND MANAGEMENT EXPERIENCE

Patent Litigation Expert Witness Consultant

Dec. 2006 – present. Retained in patent litigation matters and experienced in:

- Analysis of patent claims
- Prior art search for patent invalidity
- Technology examination for infringement
- Patent infringement contention
- Claim construction assistance to counsel
- Claim charts on invalidity
- Invalidity Declarations (IPR, EPR, PGR)
- Expert report: infringement/non-infringement
- Rebuttal report (Various Courts and ITC)
- Markman process and testimony
- Deposition testimony
- Court testimony

Disclosable cases and periods engaged in:

1. **Case: Cisco v. Lionra**
   Date: October 2022 – December 2023
   Type: Patent Invalidity – *Inter Partes Review* (IPR)
   Worked on: Petitioner side (Cisco)
   Law Firm: Haynes and Boone, LLP – San Francisco, CA

2. **Case: Dell and Cisco v. Corrigent**
   Date: August 2022 – October 2023
   Type: Patent Invalidity – *Inter Partes Review* (IPR)
   Worked on: Petitioner side (Dell and Cisco)
   Law Firm: Gibson Dunn & Crutcher LLP – Palo Alto, CA

3. **Case: Google v. VoIP-Pal; and T-Mobile v. VoIP-Pal**
   Date: November 2021 – December 2022
   Type: Patent Invalidity – *Inter Partes Review* (IPR) – four cases
   Worked on: Petitioner side (Google and T-Mobile)
   Law Firm: Paul Hastings LLP – Washington, DC (for Google)
   Law Firm: Perkins Coie LLP – Denver, CO (for T-Mobile)

4. **Case: Cisco v. WSOU Investments**
   Date: April 2021 – April 2022
   Type: Patent Invalidity – *Inter Partes Review* (IPR) 3 cases, and *Ex Parte Reexamination* (EPR)
   Worked on: Petitioner side (Cisco)
   Law Firm: Haynes and Boone, LLP – Plano, TX

5. **Case: Dell Computers, EMC, and VMWare v. WSOU Investments (Brazos Licensing)**
   Date: November 2020 – June 2022
   Type: Patent Invalidity – *Inter Partes Review* (IPR), and *Ex Parte Reexamination* (EPR) -5 cases
   Worked on: Petitioner side (VMWare and Dell)
   Law Firm: Gibson Dunn & Crutcher LLP – Palo Alto, CA

6. **Case: Estech Systems Inc v. Wells Fargo, BBVA USA, BOKF NA, Hancock Whitney, Plains Capital Bank, Regions Financial, Target Corp, and Cisco)**
   Date: November 2020 – April 2021
   Type: Patent Infringement

Worked on: Defendant side (Wells Fargo et al.)
Law Firm: K&L Gates – Pittsburgh, PA.

7. **Case: Exafer v. Microsoft**
Date: August 2020 – June 2022
Type: Patent Infringement
Worked on: Plaintiff side (Exafer)
Law Firm: DaignaultIyer LLP– New York, NY.

8. **Case: Arnouse Digital Devices Corp v. Klas Telecom, Klas Telecom Gov., USDJ**
Date: February 2020 – December 2020
Type: Patent Invalidity – *Inter Partes Review* (IPR)
Worked on: Defendant side (Klas Telecom, Inc.)
Law Firm: Vorys, Sater, Seymour and Pease LLP – Washington, DC.

9. **Case: Evertz Microsystems v. Lawo AG *et. al.*** (D21, D22)
Date: December 2019 – June 2022
Type: Patent Infringement
Worked on: Plaintiff side (Evertz Microsystems)
Law Firm: Banner Witcoff – Chicago, Illinois.

10. **Case: VMWare Inc. v. CiRBA Inc. and Densify Inc.**
Date: September 2019 – July 2021
Type: Patent Invalidity – *Inter Partes Review* (IPR), and *Ex Parte Reexamination* (EPR)
Worked on: Petitioner side (VMWare Inc.)
Law Firm: Dentons US LLP, - and - Morrison and & Foerster, LLP – San Francisco, CA.

11. **Case: Centre One v. AT&T *et. al.***
Date: September 2019 – December 2019
Type: Patent Infringement
Worked on: Defendant (AT&T)
Law Firm: Gibson, Dunn & Crutcher LLP – Dallas, Texas.

12. **Case: Sipco v. Emerson Electric, Fisher-Rosemont Systems, Inc., and Rosemount Inc.** (D20, C6)
Date: May 2018 – September 2019
Type: Patent Litigation on Domestic Products – *International Trade Commission* (ITC)
Worked on: Plaintiff side (SIPCO)
Law Firm: Finnegan, Henderson, Farabow, Garrett & Dunner, LLP – Washington, DC.

13. **Case: Dispersive Networks v. VMWare Inc. (Nicira Inc., and Velocloud Networks Inc.)** (D19)
Date: June 2018 – April 2019
Type: Patent Invalidity – *Post-Grant Review* (PGR)
Worked on: Patent owner side (VMWare)
Law Firm: Dentons US LLP – Washington, DC.

14. **Case: Wi-LAN Inc. v. LG, Lenovo, Motorola, and Qualcomm**
Date: September 2017 – May 2018
Type: Patent Infringement
Worked on: Plaintiff side (Wi-LAN)
Law Firm: Heim, Payne, and Chorush, LLP – Houston, TX

15. **Case: Arris v. Sony Corporations**
Date: June 2017 – November 2017
Type: Patent Invalidity – *Inter Partes Review* (IPR)

Worked on: Petitioner side (Sony)
Law Firm: Finnegan, Henderson, Farabow, Garrett & Dunner, LLP – Washington, DC.

16. **Case: Iridescent Networks v. AT&T**
Date: March 2017 – July 2017
Type: Patent Infringement
Worked on: Plaintiff side (Iridescent)
Law Firm: Heim, Payne & Chorush LLP – Houston, TX

17. **Case: Affinity Labs v. Netflix Inc.** (C4, C5)
Date: June 2016 – May 2018
Type: Patent Invalidity – *Inter Partes Review* (IPR)
The IPR was followed by two claim construction hearings at District Court of Texas
Worked on: Petitioner side (Netflix)
Law Firm: Marton Ribera Schumann & Chang LLP – San Francisco, CA, and
Quinn Emanuel Urquhart & Sullivan, LLP – San Francisco, CA

18. **Case: Limelight Networks v. Akamai Technologies, and XO Communications** (D18)
Date: June 2016 – April 2018
Type: Patent Infringement
Worked on: Defendant side (Akamai)
Law Firms: Choate, Hall & Stewart LLP – Boston, MA, and also, Wilmer Hale – Boston, MA

19. **Case: Philips v. HTC**
Date: February 2016 – December 2016
Type: Patent Infringement
Worked on: Defendant side (HTC)
Law Firm: Perkins Coie LLP – San Diego, CA.

20. **Case: Zix Corporation v. Echoworx Corporation**
Date: January 2016 – November 2017
Type: Patent Infringement
Worked on: Plaintiff side (Zix Corporation)
Law Firm: Baker Botts LLP – Dallas, TX.

21. **Case: Cox Communications v. AT&T** (D10 - D17)
Date: January 2015 – March 2016
Type: Patent Invalidity – *Inter Partes Review* (IPR)
Worked on: Petitioner side (Cox Communications)
Law Firm: Proskauer Rose LLP – Boston, MA

22. **Case: Cisco Systems v. Arista Networks** (D8, C2, D9, C3)
Date: January 2015 – December 2015
Type: Patent Invalidity and Non-Infringement -- *International Trade Commission* (ITC)
Worked on: Defendant side (Arista Networks)
Law Firm: Fish & Richardson P.C – Washington, DC.

23. **Case: Nomadix v. Hospitality Core**
Date: December 2014 – March 2016
Type: Patent Invalidity
Worked on: Defendant side (Hospitality Core)
Law Firm: Mehrman Law Office, PC – Atlanta, GA

24. **Case: Marvell Semiconductor v. Intellectual Ventures**

Date: November 2014 – April 2015
Type: Patent Invalidity – *Inter Partes Review* (IPR)
Worked on: Patent owner side (Intellectual Ventures)
Law Firm: McAndrews, Held & Malloy Ltd. – Chicago, IL

25. **Case: iControl Networks, Inc. v. Vringo Infrastructure Inc.**
Date: August 2014 – September 2014
Type: Patent Invalidity -- *Inter Partes Review* (IPR)
Worked on: Petitioner side (iControl Networks, Inc.)
Law Firm: K&L Gates LLP – Palo Alto, CA

26. **Case: IBM v. Intellectual Ventures II, LLC** (D6, D7)
Date: June 2014 – May 2015
Type: Patent Invalidity – *Inter Partes Review* (IPR)
Worked on: Patent owner side (Intellectual Ventures)
Law Firm: Knobbe Marten Intellectual Property Law – Irvine, CA

27. **Case: Compass Bank Inc., and First National Bank of Omaha v. Intellectual Ventures II, LLC** (D5)
Date: June 2014 – February 2015
Type: Patent Invalidity -- *Inter Partes Review* (IPR)
Worked on: Patent owner side (Intellectual Ventures)
Law Firms: Knobbe Marten Intellectual Property Law, – Irvine, CA

28. **Two Case: Palo Alto Networks v. Juniper Networks - and - Juniper Networks v. Palo Alto Networks**
Date: May 2014 – June 2014
Type: Patent Infringement
Worked on: Plaintiff side (Palo Alto Networks) - and - Defendant side (Palo Alto Networks)
Law Firm: Morrison and & Foerster, LLP – San Francisco, CA

29. **Case: GlobeTechtrust (GTT), LLC v. AT&T, Inc, FairPoint Communications, CenturyLink, Qwest Communications, CenturyTel, Embarq Comm., and Savvis Comm., and West IP Communications Inc.**
Date: April 2014 – October 2014
Type: Patent Analysis – *Inter Partes Review* (IPR)
Worked on: Petitioner side (GlobeTechtrust)
Law Firm: Russ August & Kabat, LLP – Los Angeles, CA.

30. **Two Cases: Genband v. Metaswitch Networks - and - Metaswitch Networks v. Genband** (D4)
Date: March 2014 – March 2016
Type: Patent Non-infringement, and Patent Invalidity
Worked on: Defendant side (Metaswitch Networks) - and - Plaintiff side (Metaswitch Networks)
Law Firm: Quinn Emanuel Urquhart & Sullivan, LLP – San Francisco, CA

31. **Case: Google Inc. v. Rockstar Consortium US LLP and Mobilestar Technologies LLC.**
Date: February 2014 – November 2014
Type: Patent Invalidity -- *Inter Partes Review* (IPR)
Worked on: Petitioner side (Google Inc.)
Law Firm: Oblon, Spivak, McClelland, Maier Neustadt, LLP – Houston, TX

32. **Case: Straight Path v. Sony, Google, Netflix, YouTube, and Toshiba** (D2, D3)
Date: January 2014 – May 2014
Type: Patent Invalidity and Non-Infringement -- *International Trade Commission* (ITC)
Worked on: Defendants side (Sony, Google, Netflix, YouTube, and Toshiba))
Law Firm: Wolf, Greenfield & Sacks, P.C – Boston, MA (for Sony, Google, Netflix, and YouTube)
Keker & Vannest LLP – San Francisco, CA (for Netflix and Toshiba)

33. Case: Straight Path v. Sharp
Date: September 2013 – January 2014
Type: Patent Invalidity and Non-Infringement -- *International Trade Commission* (ITC)
Worked on: Defendant side (Sharp)
Law Firm: Gibson, Dunn & Crutcher LLP – Washington, D.C.

34. Case: Brixham Solution Ltd v. Juniper Networks
Date: June 2013 – January 2014
Type: Patent Infringement
Worked on: Plaintiff side (Brixham Solution Ltd**)**
Law Firm: Hagens Berman Sobol Shapiro LLP – Seattle, Washington

35. Case: TM Patents, L.P. and T.M. Creditors LLC v. Cisco Systems, Inc.
Date: May 2013 – December 2013
Type: Patent Non-infringement, and Patent Invalidity
Worked on: Defendant side (Cisco Systems, Inc.)
Law Firm: Goodwin Procter, LLP – Boston, MA

36. Case: AIP Acquisition LLC v. Level 3 Comm., LLC, Teoco Corp., and Sonus Networks, Inc.
Date: May 2013 – October 2013
Type: Patent Invalidity
Worked on: Defendant side
Law Firm: Akin Gump Strauss Hauer & Feld LLP – Houston, TX

37. Case: Ambit v. Mitel Technologies Inc.
Date: March 2013 – August 2013
Type: Technology Failure Litigation
Worked on: Defendant side (Mitel)
Law Firm: Hiersche, Hayward, Drakeley & Urbach, P.C. – Addison, TX

38. Case: InterDigital Communications v. Samsung, Nokia, ZTE and Huawei
Date: February 2013 – October 2013
Type: Patent Infringement
Worked on: Plaintiff side (InterDigital Communications)
Law Firm: Wilson Sonsini Goodrich & Rosatti (WSGR) – Washington, D.C. and Palo Alto, CA

39. Case: AIP Acquisition LLC v. iBasis Inc.
Date: December 2012 – January 2013
Type: Patent Invalidity
Worked on: Defendant side (iBasis Inc.)
Law Firm: Latham Watkins LLP – Washington, DC

40. Case: Tekelec v. Performance Technology Inc.
Date: August 2010 – May 2011
Type: Patent Infringement
Worked on: Plaintiff side (Tekelec)
Law Firm: Katten Muchin Rosenman LLP - Chicago, IL

41. Case: Atser Research Technologies Inc. v. Raba-Kistner. (D1, C1)
Date: September 2007 - August 2009
Type: Patent Non-infringement and Invalidity
Worked on: Defendant side (Raba-Kistner)
Law Firm: Holland & Knight LLP – Washington, DC

42. Case: j2 Global Communication Inc. and Catch Curve Inc. v. Protus IP Solution Inc.

Date: May 2007 – September 2009
Type: Patent Non-infringement
Worked on: Defendant side (Protus IP Solution Inc.)
Law Firm: Smart & Biggar LLP – Ottawa, ON

43. Case: Catch Curve Inc. v. Protus IP Solution Inc.

Date: December 2006 - March 2007
Type: Patent Non-infringement
Worked on: Defendant side (Protus IP Solution Inc.)
Law Firm: Orrick, Herrington & Sutcliffe LLP – New York, NY

Other Consulting and Industry/Engineering Experiences

- Oct. 2021 – Nov. 2021. **Computer Networking Technology Analysis Consultant**: Slayden Grubert Beard - Austin, Texas. Consulting topics: cloud computing networks, and network functions virtualization (NFV).

- Dec. 2017 – April 2018. **Computer Networking Technology Analysis Consultant**: Butler and Snow - Jackson, MS. Consulting topics: computer networking security and client/server.

- Aug. 2015 - Dec. 2016. **Computer Networking Technology Analysis Consultant**: Morrison and Foester - San Francisco, CA. Consulting topics: computer network virtualization.

- Feb. 2012 - Jan. 2013. **Computer Networking and Communication Engineering Consultant**: *CITS Inc*., San Jose, California. Consulting topics: Computer & Communication Network expert and trained company's customers and consulted on various topics such as: Label-Switching Technology, Interoperability between Telephone Network and the Internet, and Multimedia-IPTV Technology, Network Monitoring, Cloud Computing, and Wireless Networks.

- Summer 1998. **Network Engineering Consultant**: *Dupont Computers Inc*., Washington, D.C. Worked as a computer network management and wireless networks expert.

- Jan. 1995 - Jun. 1996, **Research Scientist Engineer**: *Advanced Telecommunications Institute, Stevens Institute of Technology*, Hoboken, New Jersey. In charge of engineering projects in communication engineering such as high-speed LANs and PSTN.

- Sep. 1989 - Jan. 1995. **Computer/Communications Chip-Design Engineer**: *Computer & Communications Research Center (CCRC)*, *St. Louis, MO:*

  i. Designed a VLSI gigabit switch control plane chip for a high-speed computer network using CMOS technology, complexity of 200,000 logic gates, fabricated by Hewlett Packard.

  ii. Designed a VLSI Huffman Encoder Transmitter in an EE graduate project using CMOS technology, complexity: 800,000 logic gates, fabricated by MOSIS, University of Southern California.

- Jul. 1991 - Dec. 1991. **Electrical Engineering Consultant**, *Bussmann Company*, St. Louis, Missouri, a manufacturer of precision switches. Invited to instruct the company's engineers on electrical engineering topics and preparing them for the national PE exam.

- May 1985 - Dec. 1988. **Telecommunications Systems Research & Development Engineer**, *Telecommunication Research & Development Center* (TRDC), Surrey. Participated in design of a high-speed

switch for digital Private Branch Exchange" (PBX) and SS7 networks. The PBX system was connected to the public telephone switching network after completion. Received the best “design/idea” award.

University Management and Administrative Experience

- **Department Associate Chair**, Electrical Engineering Department, San Jose State University, CA, 2006-2008.

- **Advisory Board Member**, San Jose Evergreen College, California, 2011-present.

- **Academic Director,** several off-campus graduate programs, each program brought an average of $500,000 in revenue to the University:
  - Lockheed-Martin Space Corp. CA, MSE Optical Sensors and Networks Program, 2006 -2010.
  - KLA-Tencor Corp. CA, MSE Optical Sensors and Networks Program, 2007-2014.
  - MBA/MSE Dual-Degree, 2009-2014.
  - MS in Electrical Engineering, 2010-2015.

- **Chair,** Computer Networking Curriculum Committee, Department of Electrical Engineering, SJSU, (2001 to present).

- **Chair,** Governance Committee, Electrical Engineering Department, 2006-2009.

- **Chair,** Electrical Engineering Chairman Search Committee, 2005.

- **Member of EE Department Chair Review**, Electrical Engineering Department, SJSU, 2009-2010.

- **Member of Doctor of Engineering Degree Program Development**, 2002-2005.

- **Member of Electrical Engineering Department Committees**: **1)** Graduate Committee, **2)** Sabbatical Leave Committee, **3)** Area Committee in Networking and Communication Systems, **4)** Retention, Tenure and Promotion Committee, **5)** Recruitment Committee, and **6)** ABET EE Program Evaluation Task Force.

- **Member of College of Engineering Committees: 1)** Graduate Studies and Research (G&R) Committee, **2)** College of Engineering, Research Excellence Tiger Team, **3)** Committee for SJSU-UCSC Joint EE-Doctoral Degree Program Development, **4)** Inter-Departmental Special Interest Group, and **5)** Sabbatical Leave Committee.

- **Member of University Senate Committees:**
  1. University Senate Policy Curriculum & Research Committee (C&R),
  2. General Education Advisory Panel (GEAP) on Math Concept,
  3. Policy Committee of University Senate--Instruction and Student Affairs Committee (I&SA),
  4. Policy Committee of University Senate--Committee on Committee (CoC).

- **Associate Member of the Graduate-Studies Faculty**, Department of Electrical Engineering, University of Kentucky, July 1996 to June 2002.

- **Member of Faculty Search Committees**, University of Kentucky, San Jose State University.

- **Director:** Communication Network Design Lab, UKLAN, University of Kentucky, 2000-2001.

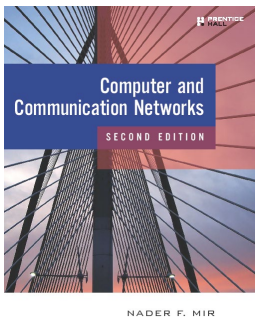
SCHOLARY WORK (BOOKS, RESEARCH, PUBLICATIONS, PATENTS, AND AWARDS)

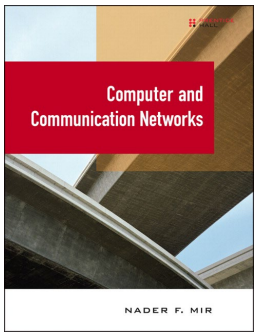
Books Published

1. N. F. Mir, "**Computer and Communication Networks**," a major textbook adopted by numerous universities worldwide, published by *Pearson Prentice-Hall Publisher*, with instructor's supplements including *solution manual* and *power points*:

   - 3rd Edition: In preparation, expected to be published in 2025-26.
   - 2nd Edition: 874 pages, published in 2015, ISBN 0133814742
   - 1st Edition: 656 pages, published in 2006, ISBN 0131389106 (reprinted three times)

   - Translated (1st Ed) to several languages by *Pearson Prentice-Hall Publishing Company*
   - Numerous adoptions by US and International Universities.





2. N. F. Mir, "Video Communication Engineering," *Academic & Engineering Publisher Inc.*, 296 pages, *1st* Edition 1986, 2nd Edition 1990.

U.S. Patent

1. *US Patent 7,012,895 B1*, Inventor: N. F. Mir, Packet-Switching Network with Symmetrical Topology and Method of Routing Packets," application no. 09/715,693, disclosure no. 907, March 15, 2006.

Journal Editorial and Advisory Board Positions

1. **2015 to present**, Technical Editor, *IEEE Communications Standards Magazine.*
2. **2012 to 2020**, Editorial Advisory Board Member, *Journal of Computing and Information Technology.*
3. **2005 to 2020**, Technical Editor, *IEEE Communications Magazine.*
4. **2004 to 2012**, Technical Editor, *Journal of Computing and Information Technology*.
5. **2008**, Guest Editor, *Special Issue of CIT Journal, "Recent Advances in Computer and Communication Networks Technology."*
6. **2005,** Editorial Board Member, *International Journal of Internet Technology and Secured Transactions*

Journal Publications

1. **N. F. Mir,** and S. Loreta, "Cloud and Edge Computing," *IEEE Communications Standards Magazine,* Editorial Page, pp. 8, December 2022.

2. **N. F. Mir,** and S. Loreta, "Cloud and Edge Computing," *IEEE Communications Standards Magazine,* Editorial Page, pp. 8, June 2020.

3. **N. F. Mir,** and S. Loreta, "Cloud and Edge Computing," *IEEE Communications Standards Magazine,* Editorial Page, pp. 1, June 2019.

4. **N. F. Mir**, A. Rao, R. Garg, M. Ambavale and R. Ainampudi "Optimal Control of Multicasting Multimedia Streams in Cloud Data Centers Networks," *International Journal on Advances in Networks and Services* (IJANS), Vol. 12, No. 1&2, June 2019.

5. **N. F. Mir,** H. Shih, B. Liu, V. Viswanatha, and K. Shaik, "Efficientof Available Bitrate (ABR) Streaming in Content-Delivery Networks (CDNs)," *Global Journal of Engineering and Technology Review,* Vol. 3(4), Oct. – Dec. 2018.

6. **N. F. Mir,** and S. Loreta, "Cloud and Edge Computing," *IEEE Communications Standards Magazine,* Editorial Page, pp. 1, Dec. 2017.

7. P. B. Bok, and **N. F. Mir,** "Internet of Things," *Journal on Reliable Intelligent Environments,* Vol. 3, pp. 209-210, Dec. 2017.

8. S. Musa, **N. F. Mir,** A. Gupta, S. Yawatkar, A. Khan and S. Chavali "Analysis of Link Aggregation Protocols Applied on Efficient Data Center Networks," *International Journal of Trend in Research and Development,* Vol. 4(5), ISSN: 2394-9333, pp. 23 – 28, Sep./Oct. 2017.

9. V. Vatsavai, S. Suravarapu, and **N. F. Mir,** "Implementation of P2P File Sharing Using Bi-directional Chord Protocol Algorithm," Elsevier/Springer *Journal of Lecture Notes in Electrical Engineering*, Vol. 362, pp. 51 – 62, issue 2016.

10. **N. F. Mir,** Richard Torres, S. Swamy, M. Sarhan, "Evaluation of Protocol Independent Multicast (PIM) and CBT Multicast Protocol on Fault-Tolerance" *International Journal of Computing and DS* (IJCDS), Vol. 2, no. 2, pp. 59-64, May 2014.

11. **N. F. Mir,** M. Sarhan, H. Gao, C. Shivakumar, "Performance Analysis of IMS Signaling in Multimedia Networks," *Journal of Information Engineering* (JIE), Vol. 1, No. 1, December 2012.

12. M. Musa and **N. F. Mir,** "An Analytical Approach for Mobility Load Balancing in Wireless Networks," *Journal of Computing and Information Technology* (CIT), Vol. 19, No. 3, p.p. 169-178, December 2011.

13. S. M. Musa and **N. F. Mir,** "Handoff Management of Mobile Agents in High-Speed Wireless Networks," *International Journal of Communication Networks and Internet Security* (IJCNIS), Volume 2, No. 3, December 2010.

14. G. Singh, S. Prabhu, **N. F. Mir,** S. M. Musa, "Architectural Improvement on a Channel Aware QoS Scheduler for 802.16 WiMAX Base Stations," *Journal of Open Problems in Science and Engineering,* Volume 1, Issue. 2, November 2009.

15. S. M. Musa, M. N. Sadiku, and **N. F. Mir,** "Blocking and Clipping Estimations for TDM in Satellite Communication Technology," *Technology Interface Journal,* No. 1, Volume 9, October 2008.

16. **N. F. Mir,** "Recent Advances in Computer and Communication Networks Technology," *Journal of Computing and Information Technology* (CIT), Special Topics in Computer Networks, Vol. 2, pp 1-3, June 2008.

17. S. M. Musa, C. M. Akujoubi, and **N. F. Mir,** "Voice over DSL (VoDSL) Information Management for Broadband Communication Network Access," *Journal of Computing and Information Technology* (CIT), Vol. 1, pp 1-8, March 2007.

18. S. M. Musa, E. Opara, C. M. Akujuobi, and **N. F. Mir,** "Utilization of Buffers for Performance Evaluation of Local Area Network Protocols," *Communications Journal of the International Information Management Association* (CJ-IIMA), Volume 6, Issue 4, pp. 19-32, September 2006.

19. M. Veyseh, B. W. Wei, and **N. F. Mir,** "A Protocol for Clustering and Node Synchronization in Sensor Networks, "wseas *Transactions on Communications*, Issue 6, Volume 5, pp 1093-1100, June 2006.

20. M. Veyseh, B. W. Wei, and **N. F. Mir,** "An Information Management Protocol to Control Routing and Clustering in Sensor Networks," *Journal of Computing and Information Technology*, Volume 1, pp 53-68, March 2005.

21. **N. F. Mir,** "Performance Analysis of Efficient Multi-Path Crossbars," *Journal of Computer Communications*, Vol. 27/3, pp 306-314, February 2004.

22. **N. F. Mir,** "An Efficient Switching System for Next-Generation Large-Scale Computer Networking," *Journal of Computer Networks*, Vol. 40, Issue 2, Page 305-315, October 2002.

23. **N. F. Mir,** "Analysis of A High-Speed Interconnection Network," *Journal of Interconnection Networks* (*JOIN*), Vol. 3, No. 1&2, Page 49-65, June 2002.

24. **N. F. Mir,** "Architectures of Fast Internet Switches for SoC Technology," *IEEE CAN Journal of Electrical and Computer Engineering,* (Invited Article), Vol. 26, No. 3/4, p.p. 147-151, Dec. 2001.

25. **N. F. Mir,** K. D. Donohue, and Y. M. Matcheswala, "Efficient Architectures and Algorithms for Multicasting Data in Computer Communication Networks," *Journal of Computer Communications*, Vol. 24/15-16, p.p. 1618-1625, Sep. 2001.

26. **N. F. Mir,** "Data Multicast Techniques, Architectures and Algorithms," *IEEE Communications Magazine*, Vol. 39, Number 9, p.p. 164-170, Sep. 2001.

27. J. Lu and N. F. Mir, "Applications of a New ABR Traffic Controller in Communication Systems," *International Journal of Communication Systems,* Vol. 3, No. 2001:14633- 642, June 2001.

28. **N. F. Mir,** "MPLS Technology for IP Voice Communications," *Journal of Communication Systems Design*, Vol. 14, No. 2, pp. 16-19, Feb 2001.

29. C. K. Mok and **N. F. Mir,** "An Efficient Interconnection Network for Large-Scale Computer Communications Applications," *Journal of Network and Computer Applications*, Vol. 23, no. 2, p.p. 59-75, July 2000.

30. **N. F. Mir,** "Evaluation of an ATM LAN Constructed with a Cyclic Deflection Network," *Journal of Computer Communications*, Vol. 21, No. 7, pp. 661-669, June 1998.

31. **N. F. Mir,** "Efficient Multicast Approach in an ATM Switching Network for Multimedia Applications," *Journal of Network and Computer Applications*, Vol. 21, pp. 31-39, January 1998.

32. **N. F. Mir,** "ATM Switching Architectures for Wafer-Scale Integration," *IEEE Transactions on VLSI Systems*, Vol. 4, no. 4, pp. 465-471, Dec. 1996.

33. **N. F. Mir,** "Design of a CMOS Buffered Switch for a Gigabit ATM Switching Network," *IEEE Journal of Solid-State Circuits*, Vol. 30, No. 1, pp. 11-18, Jan. 1995.

Conference Talks and Refereed Proceedings Publications

1. **N. F. Mir,** "AI-Assisted Edge Computing for Multi-Tenant Management of Edge Devices in 6G Networks," *Proceedings of* 2nd *IEEE* International Conference on 6G Networking (6GNet), Paris, France, Oct. 18-20, 2023.

2. **N. F. Mir,** "AI-Driven Management of Dynamic Multi-Tenant Cloud Networks," *Proceedings of IEEE SoutheastCon Conference* (SOECON`23), Orlando, Florida, Apr. 13-15, 2023.

3. **N. F. Mir,** P. S. Paramel, and S. K. Sethumadhavan, "Optimal Multi-Tenant Cloud Network Latency for Inter-Device Caching," *Proceedings of the 14th International Conference on Emerging Networks and Systems Intelligence* (EMERGING`22), Valencia, Spain, Nov. 11-17, 2022.

4. **N. F. Mir,** A. Basha, and A. Tiwari, "Application of Deep Learning in Dynamic Link-Level Virtualization of Cloud Networks Through the Learning Process," *Proceedings of IEEE 5th International Symposium on Computer Science and Intelligent Control* (ISCSIC`21), Rome, Italy, Nov. 12-14, 2021.

5. **N. F. Mir,** C. Santhanam and K. Sharma, "Finding Critical Packet-Drop Levels of Streaming at Cloud Edge Networks and a Proposed Solution," *Proceedings of Computing Conference* (Computing'21), London, UK, July 15-16, 2021.

6. **N. F. Mir**, V. Singh, A. Paranjpe, A. Naredla, J. Tejomurtula, A. Malviya, and A. Chakraborty, "Optimal Bandwidth and Delay of Video Streaming Traffic in Cloud Data Center Server," *Proceedings of 14th International Conference on P2P, Parallel, Grid, Cloud and Internet Computing* (3PGCIC'19), Antwerp, Belgium, Nov. 7-9, 2019.

7. **N. F. Mir**, "Multimedia Traffic and Signaling over Smart Cellular Networks, Challenges and Solutions," *Proceedings of 2nd IEEE International Conference on Communication Engineering and Technology* (ICCET'19), Nagoya, Japan, Mar. 12-15, 2019.

8. **N. F. Mir**, A. T. Rao, and R. Garg, "Efficient Video-Based Packet Multicast Method for Multimedia Control in Cloud Data Center Networks," *Proceedings of 13th International Conference on Systems and Networks Communications* (ICNSC'18), Nice, France, Oct. 14-18, 2018.

9. **N. F. Mir,** N. Marreddy, and P. Nigam, "An Improved Metadata Model for Big Data Processing in Cloud Data Centers," *Proceedings of IEEE International Conference on Computational Science and Computational Intelligence* (CSCI'17), Las Vegas, Nevada, Dec. 14-16, 2017.

10. **N. F. Mir,** H. Shih, B. Liu, V. Viswanatha, and K. Shai "An Improvement of Available Bitrate Streaming in Content-Delivery Networks (CDNs)," *Proceedings of 3rd Global Conference on Engineering and Technology* (GCOET'17), Bangkok, Dec. 4-5, 2017.

11. **N. F. Mir,** "Multi-Tennant Virtualization in Data Center Networks," *IEEE International Conference on Communications* (ICC'16), (Short Talk), Kuala Lumpur, Malaysia, May 21-26, 2016.

12. **N. F. Mir**, N. Kotte, and G. Pokuri**,** "Implementation of Virtualization in Software Defined Networking (SDN) for Data Center Networks," *Proceedings of the International Symposium on Advances in Software Defined Networking and Network Functions Virtualization* (SOFTNETWORKING'16), Lisbon, Portugal, Feb. 21-25, 2016.

13. V. Vatsavai, S. Suravarapu, and **N. F. Mir,** "Implementation of P2P File Sharing Using Bi-directional Chord Protocol Algorithm," *Proceedings of 2nd International Conference on Computer and Communication Engineering* (ICoCoE'15), June 9-11, 2015.

14. **N. F. Mir,** S. Chandran, and H. K. Vijay, "Packet Size Optimization in Peer-to-Peer IPTV Networking Schemes," *Proceedings of the IEEE International Conference on Industrial Automation, Information and Communications Technology* (IAICT'14), Bali Island, Aug. 28-30, 2014.

15. L. Wesley, **N. F. Mir**, A. Patel and R. Sondur, "Evidence-Based Power Management in Distributed Sensor Networks," *Proceedings of the 8th International Conference on Advances in Computer Science* (ACS'13), Apr. 10-12, 2013.

16. **N. F. Mir,** D. Doshi, and M. Gandhi, "Comparison of Routing in VPN-Based Packet-Switching Network and Label-Switching Network," *Proceedings of the 8th International Conference on Advances in Computer Science* (ACS'13), Phuket, Thailand, Apr.10-12, 2013.

17. **N. F. Mir,** "A Short Contribution on Efficient Modeling of Parallel Queues," *Proceedings of the 31st International Conference on Modeling, Identification and Control* (AsiaMIC'12), Apr. 1-4, 2012.

18. **N. F. Mir,** M. Vashisht and S. Agarwal, "Analysis of IPTV Traffic over Computer Communication Networks," *Proceedings of the 7th International Conference on Advances in Computer Science and Engineering* (AsiaMIC'12), Phuket, Thailand, Apr. 1-4, 2012.

19. **N. F. Mir,** M. Nataraja, and S. Ravikrishnan, "A Performance Evaluation Study of Video-On-Demand Traffic over IP Networks," *the 5th IEEE International Symposium on Security and Multimodality in Pervasive Environments* (SMPE'11), Singapore, Mar. 22-25, 2011.

20. **N. F. Mir,** "VoIP, and Multimedia over Broadband IP Networks," a tutorial presentation, *Proceedings of the 10th International Conference on Networks* (ICN'11), St. Maarten, Netherland Antilles, Jan. 23-28, 2011.

21. **N. F. Mir,** S. Ravikrishnan and M. Nataraja, "An Analysis of Reliable and Scalable Video-On-Demand Networks," *Proceedings of the 10th International Conference on Networks* (ICN'11), St. Maarten, Netherland Antilles, Jan. 23-28, 2011.

22. **N. F. Mir,** S. Pumpichet, and H. Chan, "An Efficient Inter-Domain Routing in Wireless Mesh Networks," *Proceedings of the 9th International Conference on Parallel and Distributed Computing and Networks* (PDCN'10), Innsbruck, Austria, Feb. 16-18, 2010.

23. **N. F. Mir,** "Overview of VoIP, and Multimedia over IP Networks," Invited Tutorial Talk, *the 9th International Conference on Parallel and Distributed Computing and Networks* (PDCN'10), Innsbruck, Austria, Feb. 16-18, 2010.

24. **N. F. Mir,** "Mobile IP and Computing, and WiMAX Technology," Invited Tutorial Talk, *the 20th International Conference on Parallel and Distributed Computing Systems* (PDCS'08), Orlando, Florida, Nov. 16-18, 2008.

25. G. Singh, S. Prabhu, and **N. F. Mir,** "A High-Performance Parallel Scheduling Architecture for WiMAX Base-Stations," *The 20th International Conference on Parallel and Distributed Computing Systems* (PDCS'08), Orlando, Florida, Nov. 16-18, 2008.

26. **N. F. Mir,** "Wireless Networks, Mesh Networks, Mobile IP, and WiMAX Technology," Invited Tutorial Talk, *International Conference on Communication Systems and Networks* (CSN'08), Langkawi, Malaysia, Apr. 2-4, 2008.

27. **N. F. Mir**, "Analysis of Wireless Sensor Networks," (Invited Talk), *SJSU Engineering Faculty Research Symposium*, San Jose, CA, Mar. 14, 2008.

28. S. M. Musa, M. N.O. Sadiku, C. M. Akujuobi, and **N. F. Mir**, "Performance of Integrated Digital Loop Carrier in Network Convergence Technology," *Proceedings of IEEE Symposium for Space Applications of Wireless & RFID* (SWIRF'07), Houston, Texas, May 8-9, 2007.

29. **N. F. Mir,** "Design of an Optical Internet Switch Fabric," *Proceedings* of *11th International Conference on Internet and Multimedia Systems and Applications* (IMSA'07), Honolulu, Hawaii, Aug. 20-22, 2007.

30. S. M. Musa, and **N. F. Mir,** "Analysis of Blocking and Clipping for TDM in Satellite Communication Systems," *Proceedings of International Conference on Information, Communications, and Energy Systems and Technologies* (ICEST'07)," Ohrid, Macedonia, June 24-25, 2007.

31. **N. F. Mir,** "A Large Scale Optical Burst Switch Architecture," *International Conference on Networking and Services* (ICNS'07), Athens, Greece, June 19-23, 2007.

32. S. M. Musa, E. U. Opara, C. Akujuobi, and **N. F. Mir,** "Utilization of Buffers for Performance Evaluation of Local Area Network Protocols,"*17th Annual Conference of International Information Management Association*, New Rochelle, New York, Oct. 4-7, 2006.

33. M. Veyseh, B. W. Wei and **N. F. Mir,** "An Energy-Efficient Decentralized Clustering Protocol for Wireless Sensor Networks,'' *Proceedings of* the 5th *International Conference on Tele-Communications and Informatics* (TELE-INFO'06), pp. 293-298, Istanbul, Turkey, May 27-29, 2006.

34. **N. F. Mir,** "Wireless Mobile Ad-Hoc Network Technology,'' Invited Tutorial Talk, *International Conference on Communications, Internet and Information Technology* (CIIT'05), Cambridge, Massachusetts, Oct. 30 - Nov. 3, 2005.

35. M. Veyseh, B. W. Wei and **N. F. Mir,** "A Decentralized Energy Efficient Cluster Formation Protocol for Wireless Sensor Networks," *IEEE 10th IFIP International Conference on Personal Wireless Communication,* (PWC'05), Colmar, France**,** Aug. 25-27, 2005

36. **N. F. Mir**, "A Wireless Sensor Network to Protect Water Reservoirs,'' *Proceedings of International Conference on Networks and Communication Systems* (NCS'05), Krabi, Thailand, Apr. 18-20, 2005.

37. **N. F. Mir,** "Routing in a Wireless Sensor Network,'' *Proceedings of International Conference on Communications, Internet and Information Technology* (CIIT'04), St. Thomas, U. S. Virgin Islands, Nov. 22-24, 2004.

38. **N. F. Mir,** "Wireless Sensor Network Technology,'' (Invited Tutorial Talk), *International Conference on Communications, Internet and Information Technology* (CIIT'04), St. Thomas, U. S. Virgin Islands, Nov. 22-24, 2004.

39. **N. F. Mir,** "A Self-Organizing Wireless Sensor-Actuator Network," *Proceedings of International Conference on Embedded Systems and Applications, Focused Session: Sensor-Actuator Networks for Engineering* (ESA'04), Las Vegas, Nevada, June 21-24, 2004.

40. **N. F. Mir** and Chwei K. Mok, "Performance of a Parallel-Plane Switching Network," *Proceedings of IEEE 7th International Symposium on Parallel Architectures, Algorithms and Networks* (ISPN'04), Hong Kong, China, May 8-10, 2004.

41. **N. F. Mir,** "Analysis of Fault-Tolerant Multi-Path Crossbars," *Proceedings of IEEE Global Telecommunications Conference* (GLOBECOM'03), San Francisco, CA, Dec. 1-5, 2003.

42. **N. F. Mir,** "Multicast Management in Presence of Node/Link Failures*," Proceedings of IEEE International Conference on Software, Telecommunications and Computer Networks* (SoftCom'03), Venice, Italy, Oct. 7-10, 2003.

43. **N. F. Mir,** "Performance of Protocol Independent Multicasting Technique with Node/Link Failures in High-Speed Networks," *IEEE Conference on Systemics, Cybernetics and Informatics* (CSCI'03), Orlando, Florida, July 27-30, 2003.

44. **N. F. Mir,** "A Performance Model of Regional and Cellular Handoff for Multimedia Mobile Users in Wireless Networks", *IEEE Conference on Systemics, Cybernetics and Informatics* (CSCI'03), Orlando, Florida, July 27-30, 2003.

45. **N. F. Mir,** "A 3-D Interconnection Network and Comparison with Hyper-Cubes," *IEEE Conference on Systemics, Cybernetics and Informatics* (CSCI'03), Orlando, Florida, July 27-30, 2003.

46. **N. F. Mir** and A. Chien, "Simulation of Converging Voice over IP in High-Speed Networks", *Abstract of OPNETWORK Conference,* Washington, DC, Aug. 26-30, 2002.

47. N. F. Mir, "Performance Evaluation of Multi-Path Crossbars," *Proceedings of 8th IEEE International Conference on Communication Systems* (ICCS'02), Singapore, Nov. 24-27, 2002.

48. **N. F. Mir,** "An Efficient Switch System for Next-Generation Large-Scale Computer Networking," *Proceedings of 8th IEEE International Conference on Communication Systems* (ICCS'02), Singapore, Nov. 24-27, 2002.

49. **N. F. Mir** and A. Chien, "Simulation of Voice over MPLS Communication Networks," *Proceedings of 8th IEEE International Conference on Communication Systems* (ICCS'02), Singapore, Nov. 24-27, 2002.

50. **N. F. Mir** and I. Habib, "Architecture of a Fast Internet Switch on Chip," joint meeting of *IEEE 5th World Multi-conference on Systemics, Cybernetics and Informatics and 7th International Conference on Information Systems Analysis and Synthesis* (ISAS'01), (Invited), Orlando, Florida, July 22-25, 2001.

51. M. Y. Choy and **N. F. Mir,** "Performance Modeling of Multimedia Traffic in Mobile Wireless Networks," *Proceedings of IEEE Military Communications Conference* (MILCOM'2000), Los Angeles, CA, October 22-25, 2000.

52. **N. F. Mir,** "Stochastic Evaluation of Multimedia Traffic Hand-off in Wireless Mobile Networks," *IEEE 4th World Multi-conference on Systemics, Cybernetics, and Informatics* (SCI'00), (Invited), Orlando, Florida, July 23, 2000.

53. J. Lu and **N. F. Mir,** "Simulation of a High-Quality ABR Traffic Control Mechanism," *Proceedings of IEEE OPNETWORK'99 Conference,* (poster session), Washington, DC, Aug. 30 - Sep. 2, 1999.

54. J. Lu and **N. F. Mir,** "Combining CAPC and Weighted Traffic Scheduling to Achieve High Quality ABR Traffic Control," *Proceedings of IEEE ATM Workshop'99*, Kochi-City, Japan, May 24-27, 1999.

55. **N. F. Mir,** "Traffic Performance Evaluation of High-Speed Communication Networks," *Proceedings of INFORMS Conference on Information Systems and Technology* (CIST'99) Cincinnati, Ohio, May 2-5, 1999.

56. **N. F. Mir,** "Analysis of Non-Uniform Traffic in a Switching Network," *Proceedings of IEEE 7th International Conference on Computer Communications and Networks* (ICCCN'98), Lafayette, Louisiana, Vol. 1, pp. 668-673, Oct. 12-15, 1998.

57. **N. F. Mir**, A New Method to Guarantee Quality-of-Service in ATM Networks," *City University of New York*, (Invited), New York, NY, Feb. 23, 1998.

58. Z. Zhang, I. Habib, **N. F. Mir,** "Supporting Multimedia Traffic over Microcellular Networks," *Proceedings of IEEE Global Telecommunications Conference* (GLOBCOM'97), Phoenix, Arizona, Vol. 1, pp. 145-149, Nov. 3-8, 1997.

59. **N. F. Mir,** "Evaluation of a Multistage Switching Network with Broadcast Traffic," *Proceedings of IEEE Electronics Industries Conference*, Boston, Massachusetts, May 6-8, 1997.

60. **N. F. Mir,** "Comparison of Switching Networks on Performance and Complexity," *IEEE Electronics Industries Conference*, Boston, Massachusetts, May 6-8, 1997.

61. N. F. Mir, "High-performance Multicast Switching Systems: Two Architectures for ATM," *City University of New York*, (Invited), New York, NY, Dec.18, 1997.

62. **N. F. Mir** and Y. Tang, "Performance Evaluation of Benes Networks under Non-Uniform Traffic," *Proceedings of IEEE International Conference on Communications* (ICC'96), Dallas, Texas, June 17-22, 1996.

63. **N. F. Mir,** J. Bose, and D. R. Vaman, "Modeling and Traffic Evaluation of an Integrated Wireless-ATM Network," *Proceedings of IEEE ELECTRO '96 Conference,* Somerset, New Jersey, Apr. 30 - May 2, 1996.

64. **N. F. Mir,** "Bandwidth Allocation in a Deflection Routing Network," *IEEE ELECTRO '96 Conference,* Somerset, New Jersey, April 30 - May 2, 1996.

65. **N. F. Mir,** J. Bose, and D. R. Vaman, "Simulation Study of End-to-End Communications in a Wireless Network," *Proceedings of IEEE Wireless Communication Systems Symposium* (WCSS'95), (Invited), New York, N.Y., Nov. 28 - Dec. 2, 1995.

66. **N. F. Mir,** "Performance Analysis of an ATM Local Computer Network," *Proceedings of IEEE 20th Conference on Local Computer Networks* (LCN'95) Minneapolis, Minnesota, no. 20, Oct. 15-18, 1995.

67. **N. F. Mir,** "Evaluation of an ATM Local Computer Network," *Publication of the North Jersey Section of IEEE*, New Jersey Institute of Technology, Invited, Newark, New Jersey, Oct. 27, 1995.

68. **N. F. Mir,** J. Bose, and D. R. Vaman, "Performance Evaluation of an Integrated Wireless-ATM Network," *Proceedings of IEEE ATM Workshop,* Washington, DC, Oct. 30 - Nov. 1, 1995.

69. S. Ghosh, P. Morreale, **N. F. Mir,** "An Identification Technique for Agent Mobility in ATM Networks," *Proceedings of IEEE ATM Workshop,* Washington, DC, Oct. 30 - Nov. 1, 1995.

70. **N. F. Mir,** "Simulation of a Manhattan-Street Network for High-Speed ATM Applications," *Proceedings of IEEE International Conference on Communications* (ICC'95), Seattle, Washington, Vol. 3, June 18-22, 1995.

71. **N. F. Mir**, "A Wafer-Scale ATM Switching System Based on the Manhattan-Street Network," *Proceedings of IEEE 7th International Conference on Wafer-Scale Integration* (ICWSI'95) San Francisco, CA, no. 7, pp. 182-190, Jan. 19-21, 1995.

72. **N. F. Mir,** "Comparison and Performance Analysis of a Deflection-Routing Networks," *International Symposium on Communication Systems*, (Poster Presentation), Stockholm, Sweden, Oct. 13-17, 1994.

73. **N. F. Mir,** "Traffic Evaluation of High-Speed Multiplexing Switches Using Deterministic Queueing Analysis," *International Conference on Information Systems*, (Poster Only), Tokyo, Japan, August 24-28, 1994.

74. **N. F. Mir,** "Wafer-Scale ATM Systems," *IEEE Data Acquisition Conference Poster, Invited*, Fermi-lab, Illinois, Oct. 26-28, 1994.

75. **N. F. Mir,** Performance, "Analysis of a Large-Scale Switching System for High-Speed ATM Networks," *Proceedings of IEEE Global Telecommunications Conference* (GLOBCOM'94), San Francisco, Calif., Vol. 1, pp. 145-149, Nov. 27 - Dec. 1, 1994.

76. **N. F. Mir,** "Wafer-Scale Integration as a Technology Choice for High-Speed ATM Switching Systems," *Proceedings of IEEE 6th International Conference on Wafer-Scale Integration* (ICWSI'94), San Francisco, CA, no. 6, pp. 282-292, Jan. 19-21, 1994.

77. **N. F. Mir,** "VLSI Design of a Gigabit ATM Switch," *Proceedings of IEEE 8th Workshop on VLSI in Communications*, Lake Tahoe, CA, no. 8, Sep. 14-16, 1993.

78. **N. F. Mir,** "Complexity Evaluation of Large-Scale Communication Networks," *Proceedings of Industrial Partnership Program Seminar* (IPP'93), Washington University, St. Louis, MO, Dec. 14-15, 1993.

79. **N. F. Mir** and S. T. Jaquille, "Available Bit-Rate Traffic Flow Control in High-Speed Communication Networks," *International Symposium on High Speed Switching Systems*, (Student Presentation), Paris, France, Apr.12-14, 1993.

80. **N. F. Mir,** "Analysis and Bandwidth Allocation in Broadband Communication Networks with VBR Traffic," *International Conf. on Broadband Communication Networks*, (Poster), London, England, Jan. 23-27, 1992.

Conference Panelist/Chair, Organizing/Steering/Technical-Program Committees (TPCs) Member

1. Conference Panelist "Cyber-systems Protection by Design," *the 14th International Conference on Emerging Networks and Systems Intelligence* (EMERGING`22), Valencia, Spain, Nov. 11-17, 2022.
2. Conference TPC Member, *The 5th World IEEE Symposium on Communication Engineering* (WSCE'22), Nagoya, Japan, Sep. 16-18, 2022.
3. Conference TPC Member, *The 16th Conference on Computer Science and Information Systems* (MCCSIS'22), Lisbon, Portugal, July 19-22, 2022.
4. Conference TPC Member, *The 5th International Symposium on Computer Science and Intelligent Control* (ISCSIC 2021), Rome, Italy, Nov. 12-14, 2021.
5. Conference TPC Member, *The 7th International Conference on Foundations of Computer Science & Technology* (CST 2020) , Zurich, Switzerland on November 21-22, 2020.
6. Conference TPC Member, *The 6th International Conference on Signal Processing* (ICOSP 2020), *Amsterdam, Netherland,* Oct. 14-16, 2020.
7. Conference TPC Member, *The International Conference on Big data, IoT, and Cloud Computing* (BIC-20), Jeju, Korea, Aug. 17-19, 2020.
8. Conference TPC Member, *The 4th International Symposium on Computer Science and Intelligent Control* (ISCSIC 2020), Newcastle upon Tyne, the UK, Aug. 10-12, 2020.
9. Conference TPC Member, *The 3rd World IEEE Symposium on Communication Engineering* (WSCE'20), Thessaloniki, Greece, Oct. 09-11, 2020.
10. Conference TPC Member, *The 2nd World IEEE Symposium on Communication Engineering* (WSCE'19), Nagoya, Japan, Dec. 20-23, 2019.
11. Conference TPC Member, *The 7th International Symposium on Security in Computing and Communications* (SSCC'19), Kerala, India, Dec. 18-21, 2019.
12. Conference Organizer, The 3rd *IEEE International Conference on Software Defined Networks and Network Function Virtualization* (SDN-NFV'19), 5GIIoTCom Workshop, Dallas, Texas, June 11-12, 2019.
13. Conference Chair, *2nd IEEE International Conference on Communication Engineering and Tech.* (ICCET'19), Nagoya, Japan, Mar. 12-15, 2019.
14. Conference TPC Member, *The 10th International Conference on Computer Science and Applications* (CSA'18), Kuala Lumpur, Malaysia, on Dec. 17-19, 2018.
15. Conference TPC Member, *The International Conference on Big Data, IoT, and Cloud Computing* (BIC'18), Jeju, Korea, Aug 21-23, 2018.
16. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'16), Guangzhou, China, July 30-August 2, 2018.
17. Conference TPC Member, *10th International Conference on Security, Privacy and Anonymity in Computation, Communication and Storage* (SpaCCS'17), Guangzhou, China, Dec. 12-15, 2017.
18. Conference TPC Member, *International Symposium on Computer Science and Intelligent Control,* (ISCSIC'17), Budapest, Hungary, Oct. 20-22, 2017.
19. Conference TPC Member, *International Conference on Big data, IoT, and Cloud Computing,* (BIC'17), Jeju, Korea, Aug. 22-24, 2017.
20. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'2016), IioTCom, Vancouver, Canada, July 31 – August 3, 2017.
21. Conference TPC Member, *International Telecommunication Union* (ITU'16) - *ICTs for a Sustainable World Conference,* Bangkok, Thailand, Nov. 14-16, 2016.
22. Conference TPC Member, *Annual International Conference on ICT: Big Data, Cloud and Security,* (ICT-BDCS'16), Singapore, July 23 - 24, 2016.

23. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'16) ContextQoS16, Waikoloa, Hawaii, Aug. 1 - 4, 2016.
24. Conference TPC Member, *International Telecommunication Union* (ITU'15) - *Trust in the Information Society Conference,* Barcelona, Spain, December 9-11, 2015.
25. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'15) ContextQoS15, Las Vegas, Nevada, August 3 - 6, 2015.
26. Conference TPC Member, *Annual International Conference on ICT: Big Data, Cloud and Security,* (ICT-BDCS'15), Singapore, July 12 - 14, 2015**.**
27. Conference TPC Member, *The International Conference on Future Computational Technologies and Applications*," (FutComp'15) Nice, France, Mar. 22 - 25th, 2015**.**
28. Conference TPC Member, *the 6th FTRA International Conference on Computer Science and its Applications* (CSA'14), Guam, USA, Dec. 17 - 19, 2014.
29. Conference Chair, *IEEE International Conference on Industrial Automation, Information and Communications Technology* (IEEE /IAICT'14), session IPTV technology, Bali Island, Aug. 28-30, 2014.
30. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'14) ContextQoS14, Shanghai, China, Aug. 3 - 7, 2014.
31. Conference TPC Member, *"The 2nd International Conference on Security in Computer Networks and Distributed Systems* (SNDS'14)*,"* Thiruvan, India, March 12-13, 2014.
32. Conference TPC Member, *"The 5th FTRA International Conference on Computer Science and its Applications* (CSA'13)*,"* Danang, Vietnam, Dec. 18-21, 2013.
33. Conference TPC Member, *IADIS International Conference on Theory and Practice in Modern Computing* (TPMC'14)*,* Prague, Czech, July 22-24, 2013.
34. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'13) ContextQoS13," Nassau, Bahamas, July 30 - August 2, 2013.
35. Conference TPC Member, *The 6th Annual International Conference on Computer Games* Multimedia and Allied Technologies (CGAT'13) – MobiCONA'13*,* Singapore, April 22-29, 2013.
36. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'12) ContextQoS12," Munich, Germany, July 30 – Aug. 2, 2012.
37. Conference TPC Member, *IADIS Conference on Theory and Practice in Modern Computing* (TPMC)*,* Lisbon Portugal, July 17-19, 2012.
38. Conference Organizing Chair, *The IEEE International Conference on Computer Communication Networks* (ICCCN'11) ContextQoS11", Maui, Hawaii, Aug. 1-4*,* 2011.
39. Conference TPC Chair and Conference Editor-in-Chief, *International Conference on Mobile Communications, Networking and Applications* (MobiCONA'11), June 27-28, 2011.
40. Conference Chairing Position, *the 10th International Conference on Networks* (ICN'11), Peer-to-Peer and Overlay Networking session, St. Maarten, Netherland Antilles, Jan. 23-28, 2011.
41. Conference TPC Member, *The International Conference on Information Science and Applications* (ICISA'11)*,* Jeju Island, South Korea, Apr. 27-29, 2011.
42. Conference TPC Member, *The International Conference on Communications Systems and Technologies* (ICCST'10)*,* San Francisco, CA, Oct. 20-22, 2010.
43. Conference TPC Member, *The International Conference on Models of Information and Communication Systems* (MICS'10), Nov. 2-4, 2010.
44. Conference TPC Member, *The International Conference on Telecommunications and Multimedia* (TEMU'10), Chania, Crete, Greece, July 14-16, 2010.
45. Conference TPC Member, *The 4th International Conference on Digital Telecommunications* (ICDT'09) Colmar, France, July 19-24, 2009.
46. Conference TPC Member, *The 2nd International Conference on Digital Telecommunications* (ICDT'07) Silicon Valley, CA, July 1-6, 2007.
47. Conference TPC Member, *IEEE Workshop on High Performance Switching and Routing* (HPSR'07)*,* Brooklyn, NY, May 30 - June 1, 2007.
48. Conference TPC Member, *IEEE Workshop on Wireless and Sensor Networks* (WSNET'07/ICPP'07), Xian, China, Sep. 2007.
49. Conference TPC Member, *IEEE Sarnoff Symposium (*SARNOFF'07*), Princeton, NJ, 2-6 April 30-May 2, 2007.*
50. Conference TPC Member, *IEEE International Conference in Communications* (ICC'07), Wireless Comm. Symposium, June 12-16, 2007.

51. Conference TPC Member, *IEEE International Conference on Wireless Information Networks and Systems* (WINSYS'07), *Barcelona, Spain,* July 28-31, 2007.
52. Conference TPC Member, *IEEE Global Communication Conference* (GLOBECOM'06), Symposium: World Class Solutions: Networking the Globe, San Francisco, CA, 27, Nov. 28 - Dec. 3, 2006.
53. Conference TPC Member, *IEEE Sarnoff Symposium (*SARNOFF'06*),* Princeton, NJ, Mar. 27-28, 2006.
54. Conference TPC Member, *IEEE* Wireless Communications and Networking Conference (WCNC'06), Las Vegas, NA, Apr 2-6, 2006.
55. Conference TPC Member, *IEEE* International Conference on Information Society (i-Society'06), Miami, Florida, USA, Aug. 7-10, 2006.
56. Conference TPC Member, *International Conference on Telecommunications and Multimedia*, Heraklion, Crete, Greece, July 5-7, 2006,
57. Conference TPC Member, *IEEE International Conference on E-business and Telecommunication Networks* (ICETE'05), Reading, UK, Oct. 3-7, 2006.
58. Conference TPC Member, *IEEE Workshop on High Performance Switching and Routing* (HPSR'05), Hong Kong, May 12-14, 2005.
59. Conference TPC Member, *IASTED Telecommunication Conferences,* all conference during2004-2007.
60. Conference Chair, *IEEE Global Communication Conference* (GLOBECOM'05), Wireless Internet II (R4.2) Session, Sat. Louis, MO, Nov. 2005.
61. Conference Chair, *IASTED International Conf. on Communications, Internet and Information Technology* (CIIT'2004), Mobile & Wireless Communication session, St. Thomas, Virgin Islands, Nov. 22-24, 2004.
62. Conference Chair, CIIT 2004 conference, Las Vegas, Nevada, June 21-24, 2004.
63. Conference Chairing Position, *International Conference on Embedded Systems and Applications*, 4-ESA: Code Generation & Optimization of Embedded session, Las Vegas, Nevada, June 21-24, 2004.
64. Conference Chairing Position, *IEEE International Conference on Communication Systems* (ICCS'02) High-Speed Networks Session, Singapore, Nov. 24-28, 2002.
65. Conference TPC Member, *IEEE International Conference in Communications* (ICC'02), New York, NY, June 12-16, 2002.
66. Conference General Session Committee Member, *IEEE International Conference on Communications, Circuits and Systems* (ICCCAS & WeSino Expo'02), Computer and Telecom Networks, Chengdu, China, July 2002.
67. Conference Steering Committee Member, *IEEE International Conference on Communications, Circuits and Systems* (ICCCAS & WeSino Expo'02), Computer and Telecom Networks, Chengdu, China, July 2002.
68. Conference Chairing Position, *IEEE Global Communication Conference* (GLOBECOM'01), QoS for Multimedia Applications (QOS'06), Services, and Networks Session, San Antonio, TX, Nov. 2001.
69. Conference Chairing Position, *IEEE Global Communication Conference* (GLOBECOM'01), Mobility Management (WCS12) Session, San Antonio, TX, Nov. 2001.
70. Conference Chairing Position, *IEEE International Conference in Communications* (ICC'01), Ad-Hoc Mobile Networking Session, Helsinki, Finland, June 11-15, 2001.
71. Conference Chairing Position, Computer Networking, *IEEE Southeastcon Conference*, Session 1, Lexington, KY, Mar. 26, 1999.
72. Conference Chairing Position, ATM Networking *IEEE Workshop on VLSI in Communications*, Switch Design Session, Lake Tahoe, California, Sep. 19-21, 1993.

Citations, Name in News, Professional Membership, and Publicity

1. Citations: numerous cases in professional records worldwide, 1992 to present.
2. Senior Member, *Institute of Electrical & Electronic Engineers* (IEEE), 2001 to present.
3. Senior Member, *Institute of Electrical & Electronic Engineers* (IEEE), Communications Society, 2001 to present.
4. Member: *California Faculty Association* (CFA), 2001 to present.
5. Former Member, *American Management Association* (AMA).
6. Name in News: "*The Record of UK Research Digest,"* Computer Network Research Awards, April 2000.
7. Name in: *Who's Who in America, Science and Engineering*, 2000, *5th and 6th* Edition.
8. Name in *IEEE Newsletter, New Jersey communications society,* Invited speaker, pp. 2NJ, Sep. 1995.
9. Name in News: *Electronic Engineering Times Magazine, "*Silicon Tricks Boost," pp. 16, Issue 821, Dec. 5, 1994.
10. Name in News: *Technology News-Letter of Electronic Design Magazine*, "Wafer-Scale Switches Being Forecast," pp. 30, Vol. 42, no. 7, Apr. 4, 1994.

11. Name in University News: *The Record of Washington University*, "The Record of Scholarly and Professional Activities, Speaking of … *,"* pp. 7, Jan. 27, 1994.

Awards and Research Grants

1. **Professional Development Grant Award,** Agency: Charles W. Davidson College of Engineering, SJSU, Duration: Jan. 2023 – Apr. 2023.

2. **Professional Development Grant Award,** Agency: Charles W. Davidson College of Engineering, SJSU, Duration: June. 2021 – Nov. 2021.

3. **Nancy Wheeler Nelson Faculty Excellence Award**, November 27, 2017.

4. **Faculty Service Recognition Award**, San Jose State University, California, March 9, 2017.

5. **Professional Development Grant Award,** Agency: Charles W. Davidson College of Engineering, SJSU, Duration: Nov. 2015 – May 2016.

6. **Professional Development Grant Award,** Agency: Charles W. Davidson College of Engineering, SJSU, April 30, 2015.

7. **Professional Development Grant Award,** Agency: Charles W. Davidson College of Engineering, SJSU, SJSU, Duration: Nov. 2014 – May 2015.

8. **Author Award**, San Jose State University, October 27, 2014.

9. **Performance Tutorial Award,** "Cloud Computing and Applications in VoIP and Media Networks," *the 8th International Conference on Advances in Computer Science* (ACS'13), Phuket, Thailand, April 10-13, 2013.

10. **Performance Tutorial Award,** "Latest Applications in Computer Networks: from IPTV to Mobile Multimedia Networks," *the 7th International Conference on Advances in Computer Science and Engineering* (AsiaMIC'12), Reference: 770-002, Phuket, Thailand, April 1-4, 2012.

11. **In Final Top 3 Nominees List for the University Outstanding Professor Award,** academic year 2009-2010.

12. **Outstanding Performance Tutorial Award,** "Overview of VoIP, and Multimedia over IP Networks," *The 9th International Conference on Parallel and Distributed Computing and Networks* (PDCN'10), Innsbruck, Austria, February 16-18, 2010.

13. **Outstanding Performance Tutorial Award,** "Mobile IP and Computing, and WiMAX Technology," *The 20th International Conference on Parallel and Distributed Computing Systems* (PDCS'08), Orlando, Florida, November 16-18, 2008.

14. **Accomplished Tutorial Award,** "Wireless Networks, Mesh Networks, Mobile IP, and WiMAX Technology," *International Conference on Communication Systems and Networks* (CSN'08), Langkawi, Malaysia, April 2-4, 2008.

15. **Research Grant Award:** Co-PI, Agency: CSU Research Award, Title: *Research Excellence (Development Grant) Award, Design and Analysis of Smart Sensor Networks,* Submitted: May 2006, Duration: 1 year: August 1, 2006 to July 30, 2007.

16. **Research Excellence (Development Grant) Award,** PI, Agency: College of Engineering, SJSU, Title: *Efficient Security Protocols and Guidelines for Various Classes of Wireless Sensor Networks*, Duration: May 2006 – Aug 2006.

17. **Outstanding Performance Tutorial Award,** "Wireless Mobile Ad-Hoc Network Technology,'' Invited Tutorial Talk, *International Conference on Communications, Internet and Information Technology* (CIIT'05), Cambridge, Massachusetts, Oct30-November 3, 2005.

18. **Outstanding Performance Tutorial Award,** "Wireless Sensor Network Technology,'' *International Conference on Communications, Internet and Information Technology* (CIIT'04), St. Thomas, Virgin Islands, November 22-24, 2004.

19. **Research Grant Award,** PI, Agency: CENIC Network Research Foundation, Title: *Phase-I, An End-To-End Protocol for Protection of California Forests from Fire through Surveillance Sensor Networks*, Duration: July 1, 2004 to January 30, 2005.

20. **Most Effective Professor Award,** Institute of Electrical and Electronic Engineers (IEEE)-SJSU Society, San Jose State University, May 14, 2004.

21. **Research Grant Award:** PI, Agency: CSU Research Award, Title: *CSU Award for Research, Scholarship or Creative Activity,* Submitted: April 2004, Duration: 1 year: August 1, 2004 to July 30, 2005.

22. **Outstanding Faculty Member Award***,* Golden-Key International Honor Society, San Jose State University, April 6, 2004.

23. **College of Engineering Research Excellence (CoE Research Tiger Team) Award,** PI, Agency: College of Engineering, SJSU, Duration: Jan. 2003 – June 2003.

24. **Research Development Grant Award,** PI, Agency: College of Engineering, SJSU, Title: *A Distributed Wireless Sensor Networks*, Duration: May 2003 – Aug 2004.

25. **Teaching Excellence Award (College Instructional Recognition Grant),** PI, Agency: College of Engineering, SJSU, Duration: Jan. 2003 – June 2003.

26. **Research Grant Award:** PI, Agency: OPNET Corp., Title: *Software Tool License Fee Award, 20 Licenses of OPNET Tool for San Jose State University,* approved for 2002 and 2003.

27. **Research Grant Award:** PI, Agency: College of Engineering, SJSU, June 2002.

28. **Research Grant Award:** PI, Agency: Laboratory for Advanced Networking, Lexington, KY, Title: *Research Grant for Graduate Students*, Duration: 2 years: June 1, 2001 to June 30 2003. (unused, due to resignation).

29. **Research Grant Award,** PI, Agency: UK Vice Chancellor for Research, Title: *Grant for IEEE conference session chair*, Duration: 4 days: June 11-14, 2001.

30. **Research Grant Award,** PI, Agency: Council on Post-Secondary Education, Title: *Equipment for Teaching Advanced Communication Networking Courses,* Duration: June 2002 to June 2003.

31. **Research Grant Award,** PI, Agency: Southeastern Center for Electrical Engineering Education (SCEEE), Title: *Efficient Handoff Techniques in High-Speed Wireless Networks under Multi-Rate Traffic,* Submitted: March 1999, Duration: Sep., 1999 to Aug. 29, 2000.

32. **Research Grant Award,** Co-PI, Agency: DARPA/Lucent Technologies, Title: *On-Line Testing and Reconfiguration of Field Programmable Gate Arrays for Fault Tolerant Applications in Adaptive Computing Systems*, Duration: May 25, 99 to May 24, 2001.

33. **Research Grant Award,** PI, Agency: UK, Office of Vice President and Dean of College of Engineering, Title: *Research Startup Fund,* Duration: 2 years: July 1, 1996 to June 30, 1998.

34. **Doctoral Research Assistantship Award,** Electrical Engineering, Washington University, *Research Sponsors*: National Science Foundation (NSF), Ascom Timplex, Bell Communications Research, Bell Northern Research, DEC, Ital-Tel SIT, NEC America, NTT, Nortel Networks, and Tektronix, Duration: 1991 to 1995.

35. **Master's Research Assistantship Award,** Electrical Engineering, Washington University, *Research Sponsors*: National Science Foundation (NSF), Ascom Timplex, Bell Communications Research, Bell Northern Research, DEC, Ital-Tel SIT, NEC America, NTT, Nortel Networks, and Tektronix, Duration: 1990.

36. **Best Innovative Telecommunications Engineering System Design Award,** Agency: Telecommunication Research & Development Center (TRDC), Title: PI: Nader F. Mir, June 1988.

UNIVERSITY TEACHING AND THESIS/PROJECT ADVISING

University Teaching Summary

At San Jose State University, CA, August 2001 to present
EE110 Network Analysis (Undergraduate Course)
EE160 Digital Communications (Undergraduate Course)
EE181 Fundamentals of Internetworking (Undergraduate Course)
ENGR297C Sensor Networks (Graduate Course)
EE250 Probability, Random Variables and Stochastic Processes (Graduate Course)
EE281 Internetworking (Graduate Course)
EE283 Broadband Communication Networks (Graduate Course)
EE284 VoIP and Multimedia Networking (Graduate Course)

At University of Kentucky, August 1996 to July 2001
EE211 Electric Circuits I (Undergraduate Course)
EE221 Electric Circuits II (Undergraduate Course)
EE512 Digital Communication Systems (Graduate Course)
EE586 Computer Communication and Switching Networks (Graduate Course)
EE599 Performance Evaluation of Computer/Communication Systems (Graduate Course)
EE640 Stochastic & Queuing Systems (Graduate Course)

University Teaching Effectiveness Rating

- *Average evaluations rated by students* anonymously on all courses I have taught over the 10 years from 2008 through 2018 is: **4.6/5.0.** This score is well above the average for all the College of Engineering and the University faculty.

New Curriculum, Program, and Course Developed

- Collaborated in the development of Joint-Doctoral Program for SJSU.
- Developed new courses for the Computer Networking Curriculum:
  1. EE181, Fundamentals of Internetworking, San Jose State University
  2. EE283, Broadband Communication Networks, San Jose State University
  3. EE284, VoIP and Multimedia Networks, San Jose State University
  4. EE586, Communication and Switching Networks, University of Kentucky
  5. EE599-2, Performance of Computer/Communication Systems, University of Kentucky

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CISCO SYSTEMS, INC.

Thesis/Project Supervision and Advising

- Supervised thesis and Master's projects: more than 200.
- Served as the member of other Master's and PhD thesis (dissertation) defense committees: more than 20.
- Supervised undergraduate senior design projects: 19.

Sample Supervised Thesis/Project Titles

- *Experimental Analysis of Server Multi-Tenancy in Data Center Networks*
- *Network Slicing using Application Virtualization Techniques Content-Aware and Content-Centric Traffic Engineering in High-Speed Networks*
- *Simulation of Fog Computing in IoT Networking*
- *Efficient Traffic Shaping on Video Streaming over Cloud Networks*
- *Dynamic Link-Level Virtualization through the Machine Learning Process in Cloud Networks,*
- *Evaluation of Hierarchical Network Architecture for 5G Applications*
- *Application of AI in Network Management*
- *Performance Evaluation of Machine Learning in Network Managemen*t,
- *Load Balancing and Firewall Implementation Utilizing NFV Technique*
- *Application of Network Functions Virtualization (NFV) in Fog Computing*
- *Bandwidth Threshold Analysis for Adaptive Bit Rate Multimedia Streaming Network*
- *Simulation of Video Streaming in Fat-Tree Topology under Bandwidth Constraints*
- *Design and Analysis of Edge Computing in High-Speed Networks.*
- *Design and Analysis of SDN-Based Data Center Network.*
- *Network Slicing Using SDN and NFV*" May 2019.
- *Virtualization in Data Center Networks.*
- *Performance Analysis of Various Bitrate Streaming Using Traffic Shaping Techniques*
- *Simulation of Link Aggregation in Fat-Tree Datacenter Networks*
- *Evaluation of Adaptive Bitrate (ABR) Streaming among Multiple Clients using OPNET/ OMNeT++*
- *Simulation of Link Aggregation Using LACP in Cloud Networks.*
- *Performance Evaluation of Video Streaming in High-Speed IPv6/MPLS Networks.*
- *Design and Analysis of Link Aggregation in Local Area Networks.*
- *Development of a Multilayered Aggregate Switch Arch. for DCNs Using Software Defined Networking (SDN)*
- *Application of Link Aggregation protocol in Top-of-Rack (TOR) switches.*
- *Dynamic Control of Networks Based on Bandwidth Policies.*
- *Load Balancing in Data Center Network*s *(DCNs)*, *Round Robin and Least Connect Algorithms.*
- *Implementation of Multi-Tenant Data Centers using SDN with QoS Enhancement.*
- *Simulation of Hybrid and Chord Peer-to-Peer (P2P) Network Using NS3 Simulator.*
- *Consistent Model Architecture for Scalable Infrastructure Systems for Big Data Processing.*
- *Performance Analysis of Virtual Network Topology and Functions using Mininet.*
- *Performance Analysis of Routing and Security Functions of a Virtualized Topology Using RYU Controller.*
- *Implementation of SDN in Data Center Networks.*
- *Analysis of Improvement in Multimedia Service Using Load Balancing.*
- *Simulation of Load Balancing Traffic in a High-Speed Cloud Network.*
- *Experimental Analysis of Load Balancing for a Cloud Computing Network*s.
- *Simulation of Load Balancing Algorithms in a Cloud Network.*
- *Comparative Study of Data Center Interconnect Protocols.*
- *Implementation of P2P File Sharing Using Bi-directional Chord Protocol Search Algorithm.*
- *Simulation of File Transfer in a Peer to Peer (P2P) Network Using Bit-Torrent like Protocol.*
- *Implementation of an SDN-Based Network Using OpenDaylight and OpenFlow Standards.*
- *Simulation of Open Flow in SDN Environment.*
- *Simulation of Content Delivery Networks (CDNs) Using DNS Server and Content Control Servers.*

- *An Experimental Approach in Content Delivery Networks (CDNs).*
- *Packet Filtering Techniques at Routers Based on Protocol Types.*
- *Packet Filtering Techniques at Routers Based on Source and Destination Address Addresses.*
- *Simulation of Peer-to-Peer (P2P) Network with Programmable Router.*
- *Experimental P2P Networks Using BitTorent, Gnutella and Python Framework with a Simple GUI.*
- *Application of Software-Defined Networking (SDN) technology for Router Functionality.*
- *Power Saving Techniques for Backbone Networks.*
- *SDN Application in High speed & Multimedia/VoIP Networks.*
- *VPN Techniques for Home-Area Networks.*
- *Evaluation of Multi-Layer Optical Networks.*
- *Secure Connection Establishment over 4G-LTE Networks.*
- *Implementation of PIM Multicast Protocol for Cloud Computing.*
- *TCP performance in VLANs for Transmissions of Voice over IP (VoIP) and Video over IP.*
- *Load Balancing in Cloud Computing.*
- *Bandwidth Allocation in Hybrid Networks.*
- *Evidence-Based Power Management in Distributed Sensor Networks.*
- *Performance Evaluation of Video-on-Demand (VoD) Traffic over IP.*
- *Design and Evaluation of Expandable Deflection Networks.*
- *Multicasting Data in Non-Blocking Switching Networks.*
- *Analysis of Handoff in Cellular Wireless Networks.*
- *Analysis of Optical Networks and Wave-Length Division Multiplexers.*
- *Long Term Evolution (LTE) Handover Using NS3 Tool.*
- *Analysis of Voice/Multimedia over IP.*
- *Implementation of RSA Algorithm for Wireless V-LAN Security.*
- *Performance Evaluation of Virtual Local Area Networks.*
- *Modeling Handoff and Mobility under Multi-Rate Traffic in Wireless Mobile Communication Networks.*
- *Quality of Service (QoS) Assessment for Multiple VLANs.*
- *Analysis of Traffic and Node Mobility over Wi-Fi Networks Using Network Simulator.*
- *Performance Evaluation of Transmission Control Protocol (TCP) over Wi-Fi Networks.*
- *Evaluation of Label-Switching Networks with QoS Provision.*
- *Simulation of FDMA/TDMA in MAC-Layers for a Self-Organizing Water-Based Sensor Network.*
- *Proxy-Based design for Video Streaming in High-Speed Networks.*
- *Analysis of Distributed Wireless Sound Networks.*
- *Analysis of Inter-Domain Multicast in Ad-Hoc Networks (IMAN) Protocol.*
- *Implementation of IMAN Protocol Using network Simulator NS2.*
- *Simulation and Analysis of Time Synchronization Algorithms in Wireless Sensor Networks.*
- *Performance Evaluation of Inter-Domain Routing and Multicasting in Wireless Mesh Networks.*
- *Improved Channel Aware QoS Scheduling Architecture for Base-Stations in 802.16d WiMAX Networks.*
- *Web-based Heterogeneous Sensor Network for Health Monitoring of Structures.*
- *Performance Evaluation of Internet Protocol TV (IPTV) Traffic over Computer Communication Networks.*
- *Performance Evaluation of TCP Connections over WiMAX Networks.*
- *Design and Analysis of MPLS-based Virtual Private Networks (VPNs).*
- *Analysis of IPv6 formatted data over an MPLS-IPv4 Core.*
- *Design and Analysis of MPLS based Virtual Private Networks.*
- *Packet Size Optimization of the Internet Protocol Television Networks.*
- *Implementation of Core-Based Tree (CBT) Multicasting Routing Protocol over MPLS network.*
- *Design and performance analysis of a Media Gateway Controller (MGC) to Interface PSTN and SIP networks.*
- *Design and Simulation of high speed MPLS network for Multimedia Applications.*
- *Implementation of Protocol Independent Multicast (PIM) Using NS2 Simulator.*
- *IP Multimedia Subsystems (IMS) Networks.*
- *Design and Analysis of Session Initiation Protocol (SIP) Features for High-Speed Proxy Servers.*
- *A Security Protocol Development for an Energy-Based Sensor Network.*

- *Design and Analysis of Central Processing Systems for Sensor Networks.*
- *Implementation of Security Protocol in Sensor Networks.*
- *Microcontroller Design for Central Monitoring over Large-Scale Sensor Regions.*
- *Proxy-Based Design for Video Streaming in High-Speed Networks.*
- *Parallel Scheduler for High-Speed Communication Networks.*
- *Performance Evaluation of QoS Implementation in VoIP Networks.*
- *Implementation and Analysis of Multicast Shared-Memory Architectures for High-Speed Data Switching.*
- *Design and Analysis of a PCI Express Controller for High-Speed Data Networks.*
- *Modeling and Analysis of Voice in Data Communication Networks.*
- *Performance Analysis of Voice in MPLS Communication Networks.*
- *Implementation of a Parallel and Self-Routing Switching Fabric for Broadband Communication Networks.*
- *A Switching Network Node and Traffic Congestion Controller Design for a High-Speed Switching System.*
- *Analysis of Packet Scheduling and Traffic Shaping in a High-Speed Switching Network.*
- *An Output Port Processor with Packet Re-sequencing and Congestion Control for a High-Speed Switching.*
- *Design of a Network Input Port Processor with Multicast Capability for a High-Speed Switching Fabric.*
- *Routing in Dynamic and Survivable Mobile Data Networks.*
- *Analysis of Multi-Protocol Label Switching (MPLS) Architectures.*
- *Performance Evaluation of Fault-Tolerance in Multicasting Real-Time Traffic Fault-Tolerant.*
- *Design and Analysis of Fault-Tolerant Feature in Ad-Hoc Wireless Networks.*
- *Design and Analysis of Security Systems for Label-Stacking Mechanism in Data Networks.*
- *Implementation of Bluetooth Technology with Improved Transmission Power.*
- *Design of Built-In Self-Testing Circuits for a Sensor Node.*
- *Design and Analysis of Data Processing Systems for a Self-Organizing Wireless Sensor Network.*
- *Comparison of Hypercube Network with SSN for High-Speed Computing.*
- *Implementation of MAC-Layer Protocol for a Self-Organizing Wireless Sensor Network.*
- *Analysis of Re-circulating High-Speed Multi-Stage Switches.*
- *Design and Evaluation of a Packet-Contention System for Multi-Path Buffered Crossbar.*
- *Design and Performance of a Flag-Circuitry and Controller of a Multipath Buffered Crossbar.*