Hugh M. Smith, Ph.D.

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I. Education

Ph.D. in Computer Science November 1999
Michigan State University, College of Engineering
Dissertation Title: Multicast Videoconferencing over Internet Style Networks

Masters of Science in Computer Science, December 1994
Michigan State University, College of Engineering
Research Focus: Parallel and Distributed Computing

Bachelors of Science in Computer Science, May, 1985
Xavier University, College of Arts and Science

II. Academic Experience:

9/16-6/17, 9/09 – 6/13, Director of the Cal Poly Computer Engineering Program

- Associate Director of the Computer Engineering Program, 2007-2009

9/21-present, Department of Computer Engineering, California Polytechnic State University
1/00 – 9/21, Department of Computer Science, California Polytechnic State University

- Tenured Full Professor in the Department of Computer Science/Computer Engineering
- Awarded the Computer Engineering Program Most User-Friendly Award ("In recognition of your commitment and dedication to student success), 2015
- Awarded the Computer Science Department Professor of the Year, 2006
- Awarded the College of Engineering/TRW Teaching in Excellence award, 2002.
- Awarded the Computer Engineering Program Instructor of the Year, 2002.
- Awarded the Computer Engineering Program Lab Instructor of the Year, 2001.
- Laboratory Manager for the Cal Poly Advanced Networking Laboratory, 2001-2007
- Developed and taught the senior level Computer Networks I and Networks II courses. Course activities included the theoretical aspects of computer networks, security, wired and wireless networks, and the implementation of protocol layers from the physical to application layer. Courses include reinforcement of these concepts through socket programming and hands-on networking experience (routers/switches) in Cal Poly's Advanced Networking Laboratory.
- Developed and taught the Graduate Level Computer Networks course. This course involves the study and analysis of the theory and implementation of both academic and industry research of computer networks.
- Taught the Introduction to Computer Science, System Programming, and Digital Electronics Computer Engineering Program courses.

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5/98 – 7/98, Instructor, Department of Computer Science and Engineering, Michigan State University

- Taught the "Algorithms and Computing" course, which covered an introduction to computer science and programming in C++.

9/92 – 5/96, 98-99 Teaching Assistant, Department of Computer Science and Engineering, Michigan State University

- Courses included Object Oriented Programming, Computer Networks and Computer Architecture

III. Professional Experience:

3/10 – 6/13, Android Mobile Phone App Development

- Developed and released the Android App *Lockmenu* (www.lockmenu.com)
- Managed the design, implementation, testing, marketing and patent submission for the *Lockmenu* app.

12/03 – present, Intellectual Property Consulting

- Worked as a IP Expert Witness on hardware and software related cases. Work included both infringement and invalidity analysis.
- Wrote expert reports and testified in both depositions and trials

7/00 – 8/00, Faculty Employment, Cisco Systems

- Responsibilities included development of a process for setting up Advanced Networking Labs at teaching universities.

9/95 – 5/98, Research Assistant, Department of Computer Science and Engineering, Michigan State University

- Researched issues involved in the transmission and control of multicast video over heterogeneous networks.
- Addressed issues in controlling multicast video using various compression algorithms (MPEG, Motion JPEG) over ATM and Ethernet networks.

5/93 – 8/93, Research Assistant, Department of Computer Science and Engineering, Michigan State University

- Researched issues in developing AI systems to provide real-time diagnostics tools.

5/85 – 8/92 The Procter and Gamble Company, Cincinnati, Ohio
9/90 - 8/92, Group Manager,
5/89 - 9/90, Senior Systems Analyst/Project Manager
5/85 - 5/89, Systems Analyst

- Managed all aspects of a large distributed Purchasing and Inventory Control system, which included over 2,000 users, processed over $250 million in yearly purchases, and tracked over $60 million in inventory.

- Managed five-person support team that involved recruiting, training, performance appraisals and development plans.
- Led a division wide effort as a Project Manager to develop a decentralized quality monitoring information system.
- Coordinated hardware and software upgrades, capacity planning, and on-going maintenance as a computer System Manager.

5/83 – 5/85, Programmer Analyst, Merrell Dow Research Institute, Cincinnati, Ohio

- Responsible for system development and support.

IV. Research related activities

- Presented the paper titled: *An Embedded System Design Experience for First Year Computing Majors,* at the 8th annual FYEE Conference, Columbus Ohio, August 2016.

- Presented the paper titled: *Microcontroller Based Introduction to Computer Engineering,* at the 7th annual FYEE Conference, Roanoke VA, August 2015.

- Presented the paper titled: *Toward a common host interface for network processor* at the 2003 IASTED International Conference on Communications, Internet, & Information Technology (CIIT) Scottsdale, AZ, November 2003.
    - Conference session chair for the "Information Systems and the Internet III – Systems Architectures" session

- General Conference Program Committee, IEEE International Conference on Communications (ICC), 2003

- Presented the paper titled*: Effective Call Admission Control for Video Phone Applications* at the International Conference on Networking (ICON'03) in Sydney Australia, September 2003.

- Presented the paper titled*: Feedback Scalability for Multicast Videoconferencing* at the International Conference on Networking (ICN'01) in Colmar France in July 2001.

- Presented the paper titled*: Fair Link Sharing with Layered Multicast Videoconferencing* at the IEEE GLOBECOM in San Francisco in November 2000.

- Presented the paper titled: *Pattern Smoothing for Compressed Video Transmission* at the IEEE International Conference on Communications (ICC '97) in Montreal Canada in June 1997.

- Patent Application titled: "Systems and Methods for Deterministic Control of Instant-On Mobile Devices with Touch Screens", Serial no. 13/222,337

Publications

Wood, Z., *et al., Mixed Approaches to CS0: Exploring Topic and Pedagogy Variance After Six Years of CS,* SIGCSE'18, Baltimore MD, February 21-24, 2018.

Smith, H., *Network Programming – Beyond Sockets*, Proceedings of the 2016 ASEE Rocky Mountain Section Conference, Cedar City UT, September 2016.

Smith, H,. *An Embedded System Design Experience for First Year Computing Majors*, Proceedings of the 8th annual FYEE conference, Columbus OH, August 2016.

Smith, H., *Microcontroller Based Introduction to Computer Engineering,* Proceedings of the 7th annual FYEE Conference, Roanoke VA, August 2015.

Lydon, S., and Smith, H., *General Direction Routing Protocol*, Proceedings of the 2008 IASTED International Conference on Sensor Networks, September 2008, Crete Greece.

Piratla, N., Jayasumana, A. and Smith, H., *Overcoming the Effects of Correlation in Packet Delay Measurements Using Inter-Packet Gap*s, Proceedings of the IEEE International Conference on Networks (ICON'04), November 2004, Singapore.

Kredo, K., Liddicoat, A., Smith, H. and Nico, P., *A Flexible Platform for Network Processing,* Proceedings of the 2004 IASTED Communications and Computer Networks conference, November 2004, Boston MA.

Wang, M. and Smith, H., *Using Heuristics to Select the Root Bridge of a Spanning Tree in a Bridging Algorithm*, Accepted to appear in the 2004 IASTED International Conference on Communications, Internet and Information Technology (CIIT 2004), November 2004.

E. Hawkins, P. Nico, and H. Smith. *Toward a common host interface for network processors*. Proceedings of the 2003 IASTED International Conference on Communications, Internet, & Information Technology (CIIT), pages 689-694, Scottsdale, AZ, November 2003.

Hatalsky, P., Smith, H. and Carlton, M., *Effective Call Admission Control for Video Phone Applications,* Proceedings of the IEEE International Conference on Networks (ICON'03), Sydney Australia, September 2003

Hatashita, J., Harris, J., Smith, H. and Nico, P., *An Evaluation Architecture for a Network Coprocessor,* Proceedings of the 2002 IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS), Cambridge, Massachusetts, November 2002.

Hatalsky, J., Murarka, N., Hatalsky, P. and Smith, H*., Implementation of Fair Link Sharing Through Modification of the Linux Kernel*, Proceedings of the International Conference on Communications (ICC'02), New York, NY, April 2002.

Smith, H., Mutka, M. and Yang, L., *Feedback Scalability for Multicast Videoconferencing*, Proceedings of the International Conference on Networks, Colmar, France, July 2001.

Smith, H. and Mutka, M., *Fair Link Sharing with Layered Multicast Videoconferencing*, Proceedings of the IEEE GLOBECOM 2000, San Francisco, CA, November 2000.

H. Smith, M. Mutka and E. Torng, "Bandwidth Allocation for Layered Multicast Video", Proceedings of the IEEE International Conference on Multimedia Computing and Systems, Florence Italy, June 1999.

Smith, H., Mutka M. and Rover, D., *A Feedback Based Rate Control Algorithm for Multicast Videoconferencing*, Journal of High Speed Networks, Vol. 7, No. 3-4, pp. 259-279, 1998

Smith, H. and Mutka, M., *Pattern Smoothing for Compressed Video Transmission*, Proceeding of the IEEE International Conference on Communications (ICC '97), June 1997.

Waheed, A., Rover, D., Mutka, M., Smith, H. and Bakic, A., *Modeling, Evaluation, and Adaptive Control of an Instrumentation Systems*, in Proceedings of the IEEE Real-Time Technology and Applications Symposium (RTAS '97), pp. 100-110, June, 1997

Articles published in Network Computing Magazine

- Sneak Preview of the IPolicy Networks ipEnforcer, April 2004
- Product Review of SOHO All-in-one Security Devices, March, 2004
- Sneak Preview of the ImageStream TransPort router, February 2004
- Sneak Preview of the F5 Firepass 1000 SSL VPN, December 2003.

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Intellectual Property and Technical consulting experience:

- Multimedia Technologies PTE. LTD. v. Vizio, Inc. Case involves smart TV technologies. (Hired by Vizio) (2023-) Deposition May 29, 2024.

- CPC Patent Technologies Pty Ltd v Apple Pty Limited & Apple Inc in the Federal Court of Australia. Case involves device security. (Hired by CPC Patent Technologies Pty Ltd) (2023-) Testified at Trial in Australian Federal Court October 18, 2023.

- Davinci Lock, LLC v. SpiderDoor, LLC. Case involves the distribution of lock codes. (Hired by SpiderDoor, LLC.) (2023) Deposition July 27, 2023, Testified at Hearing August 24, 2023.

- Lionra Technologies Limited v. Fortinet, Inc *et al*. Case involves networking and security technologies. (Hired by Lionra) (2022-). Depositions October 5, 2023, February 14, 16 and 19, 2024.

- Aire Technology Ltd vs. Samsung Electronics Co. *et al.* Case involves securing electronic transactions and authentication methods. (Hired by Aire Technology) (2022) Apple Deposition June 29, 2022.

- StratosAudio Inc. vs. Hyundai, *et al.* Case involves identifying and tagging of audio files. (Hired by StratosAudio, Inc.) (2022-2023) Volvo Deposition July 13, 2022. Subaru Deposition July 15, 2022.

- Broadband iTV, Inc. vs. Amazon. Case involved accessing video services (Hired by Broadband iTV) (2021-2022), Deposition June 6, 2022.

- Ikorongo Technology LLC vs. Bumble, Samsung, *et al.* Case involved mobile device (both iOS and Android) location tracking using GPS and WiFi and distributed location sharing. (Hired by Ikorongo) (2020-2021) Bumble Deposition December 7, 2021.

- Broadband iTV, Inc. vs. AT&T Services *et al*. and Dish Network LLC. Case involved accessing video services (Hired by Broadband iTV) (2020-2022) Deposition August 16, 2021 (AT&T), Deposition August 8, 2021 (DISH).

- Skycope Technologies Inc. vs. Bluevec Technologies Inc., Case involved Anti-drone software. Canadian case. (Hired by Skycope) (2020-2021) Testified at trial in Vancouver, British Colombia Canada August 19-20, 2021.

- Facebook, Inc., *et al*. vs. Blackberry Limited, Case involved asynchronous communication notifications. IPR. (Hired by Blackberry) Deposition February 10, 2020 (2019-2020)

- Seven Networks vs. Apple. Case involved mobile device power and communications management and device tracking. (Hired by Seven Networks) (2019-2020) Depositions January 13, 2020, July 20, 2020.

- Seven Networks vs. Google, Samsung and ZTE. Case involved power and communications management on mobile devices. (Hired by Seven Networks) (2018-2019) Depositions October 17-18, 2018 (Samsung), October 18-19, 2018 (Google) and November 16-17, 2018 (ZTE).

- Intellectual Ventures vs. Netapp. Case involved memory management in multiprocessor systems. IPR (Hired by IV) (2017) Deposition December 13, 2017.

- Intellectual Ventures vs. Lenovo, EMC and NetApp. Case involved memory management in multiprocessor systems and storage device security. (Hired by IV) (2017-2020) Deposition October 21, 2019, Deposition March 6, 2020, Deposition April 20, 2020.

- Intellectual Ventures vs. Bitco General Insurance Corp *et al*. Case involved encryption and web content access technologies. (Hired by IV) (2015-2019) Depositions October 23, 2018 (HCC) and November 26, 2018 (Bitco/Great West). Testified at trial March 8, 2019.

- Core Wireless Licensing vs. LG Electronics. Case involved cellular telephone technologies and the Multimedia Messaging Service. (Hired by Core Wireless) Deposition December 14, 2015 (2015-2016)

- Kinglite Holdings, Inc vs. American Megatrends Inc (AMI). Case involved networked BIOS technology. IPR case. (Hired by AMI) Deposition January 18, 2016 (2014-2016)

- Good Technology vs. MobileIron and Airwatch. Case involved mobile phone data security. (Hired by: Good Technologies) Depositions February 22-23, 2015; March 28-29, 2015. Testified at trial in San Jose CA July 21-23 and July 30, 2015. (2013-2015)

- TuitionFund vs. SunTrust Banks, Inc., *et al.* Case involved processing of rebates from credit and debit cards. (Hired by: TuitionFund) Wrote infringement report. Deposition January 5, 2014. (2013-2014)

- Safe Gaming System, Inc. vs. Ontario Lottery and Gaming Corporation *et al*. Case involved on-line gambling systems. Canadian Case. Testified at trial in Toronto, Canada June 26-29, 2017 (Hired by: Safe Gaming System, Inc.) (2012-2017)