Curriculum Vitae

Shivakant Mishra
Professor
Department of Computer Science
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Boulder, CO 80309-0430, USA

Contact Information

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Education

Ph.D. (Computer Science), May 1992
University of Arizona, Tucson, AZ, USA
Dissertation: *Consul: A Communication Substrate for Fault-tolerant Distributed Programs*
Advisor: Prof. Richard D. Schlichting

M.S. (Computer Science), August 1987
Southern Illinois University, Carbondale, IL, USA
Thesis: *Robust Mutual Exclusion Algorithms in Distributed Systems*
Advisor: Prof. Pradip Srimani

B.Tech. (Computer Science and Engineering), May 1985
Indian Institute of Technology, Bombay, India
Project: *Devanagari Script Text Processing System*
Advisor: Prof. S.S.S.P. Rao

Teaching Interests

Operating Systems (undergraduate level)
Computer Systems (undergraduate level)
Data Structures (undergraduate level)
Network Systems (undergraduate and graduate levels)
Distributed Systems (graduate level)
Advanced Operating Systems (graduate level)

Research Interests

Cybersafety: Hate speech, cyberbullying, misbehaving users, misleading propaganda
System Support for Edge Computing, Internet of Things, Edge AI
Socio-Technical System, Environmental Justice Communities, Health & Social Well-being
Strengthening Democracy Through Technology
Mobile and Pervasive Computing, Social Fusion, Mobile Group Behavior
Large Scale Distributed Computing: Scalable infrastructure for big data

Awards and Honors

National Science Foundation (NSF) Computer Systems Research (CSR) Spotlight Project.
OutWithFriendz and GEVR, 2019.

Dean's Faculty Fellowship.
College of Engineering and Applied Sciences, University of Colorado, Boulder, 2018-19.

Universal Design Fellow. University of Colorado, Boulder, 2016-17.

Best Paper Award Nomination.
L. Tian, R. Rafiq, S. Li, D. Chu, R. Han, Q. Lv and S. Mishra. "Multi-modal Fusion for Flasher Detection in a Mobile Video Chat Application". In the 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (Mobiquitous 2014), London, UK (December 2014).

Best Paper Award Nomination.
M. Marwah, S. Mishra and C. Fetzer, 'Fault-Tolerant and Scalable TCP Splice and Web Server Architecture'. In the 25th IEEE Symposium on Reliable Distributed Systems (SRDS 2006), Leeds, UK (October 2006).

Best Paper Award Nomination.
S. Mishra, 'A Middleware for Constructing Highly Available, Fault Tolerant, and Attack Tolerant Services'. In the 17th ISCA International Conference on Computers and Their Applications (CATA 2002), San Francisco, CA (April 2002).

Best Paper Award.
S. Mishra and H. Kuntur, 'Security Architecture of the DaAgent System'. In the *13th IASTED International Conference on Parallel and Distributed Computing & Systems*, Anaheim, CA (August 2001).

Researcher of Extraordinary Merit Award. University of Wyoming, 1999.

Distributed Systems Engineering Premium Award. 1995.
S. Mishra, L. Peterson and R. Schlichting, 'Consul: A Communication Substrate for Fault-tolerant Distributed Programs', Distributed Systems Engineering Journal, Vol. 1, No. 2, December 1993

Professional Experience

July 2016 -	Professor, Department of Computer Science, University of Colorado, Boulder, CO, USA.
July 2020 -	Site Co-Director, NSF IUCRC Center on Pervasive Personalized Intelligence, University of Colorado, Boulder, CO, USA.
January 2020 - July 2022	Associate Chair, Department of Computer Science, University of Colorado, Boulder, CO, USA.
July 2016 - December 2017	Associate Chair, Department of Computer Science, University of Colorado, Boulder, CO, USA.
August 2000 - June 2016	Associate Professor, Department of Computer Science, University of Colorado, Boulder, CO, USA (*Tenure granted in the year 2004*).
August 1994 - July 2000	Assistant Professor, Department of Computer Science, University of Wyoming, Laramie, WY, USA (*Tenure granted in the year 2000*).
June 1992 - July 1994	Post Doctoral Researcher, Department of Computer Science & Engineering, University of California, San Diego, CA, USA.
May 1989 - May 1992	Research Associate, Department of Computer Science, University of Arizona, Tucson, AZ, USA.
August 1987 - May 1989	Teaching Assistant, Department of Computer Science, University of Arizona, Tucson, AZ, USA.
August 1985 - May 1987	Teaching Assistant, Department of Computer Science, Southern Illinois University, Carbondale, IL, USA.
July 1984 - December 1984	Tutor, Department of Computer Science, Indian Institute of Technology, Bombay.

Courses Taught

Advanced Operating Systems (Graduate level): Taught more than ten times: recently in Fall 2023, Fall 2022, Fall 2020, Fall 2019 and Fall 2018

Distributed Systems (Graduate level): Taught more than ten times: recently in Spring 2023, Spring 2022, Spring 2021, Spring 2020 and Spring 2018

Network Systems (Undergraduate and Graduate levels): Taught more than ten times: recently in Fall 2014, Fall 2011, Spring 2010, Spring 2009 and Fall 2008

Operating Systems (Undergraduate level): Taught more than ten times: recently in Spring 2023, Fall 2017, Fall 2016, Spring 2014 and Spring 2013

Computer Systems (Undergraduate level): taught three times: Fall 2019, Fall 2017 and Fall 2015

Data Structurres (Undergraduate level): taught five times: Spring 2012, Spring 2011, Spring 2010, Spring 2009 and Spring 2008.

Several Special Topics Seminars (Undergraduate and graduate levels): Advanced Computer Systems Research, Strengthening Democracy Through Technology, Sustainable Computing, Pervasive Computing, Dependable Systems

Research Grants (Federal Agencies)

SCC-IRG Track 1: Empowering Environmental Justice Communities with Smart and Connected Technology: Air and Noise Pollution, Wellbeing, and Social Relations in Times of Disruption
National Science Foundation.
Amount: $1,800,000.00. (2020 - 2024)
PI: Shelly Miller. Co-PI: Shivakant Mishra.

IUCRC Proposal Phase I University of Colorado Boulder: Center for Pervasive Personalized Intelligence (PPI)
National Science Foundation.
Amount: $750,000.00. (2020 - 2025)
PI: Daniel Dig. Co-PI: Evan Chang and Shivakant Mishra.

CSR: Small: System Support to Build Context Aware Applications at the Edge
National Science Foundation.
Amount: $500,000.00. (2018 - 2024)
PI: Shivakant Mishra.

Design and Development of Microservice-Based Fog-Enabled Infrastructure for Smart Agriculture
National Science Foundation (CSR Supplement).
Amount: $100,000.00. (2022 - 2024)
PI: Shivakant Mishra.

IUCRC Planning University of Colorado Boulder: Center for Pervasive Personalized Intelligence (PPI)
National Science Foundation.
Amount: $15,000.00. (2018 - 2019)
PI: Evan Chang. Co-PI: Shivakant Mishra.

Participant Support-CSR: Small: Efficient and Scalable Systems Support for Mobile Group Formation, Inference, Recommendation and Classification
National Science Foundation.

Amount: $8,000.00. (2015 - 2021)
PI: Richard Han. Co-PIs: Qin Lv and Shivakant Mishra.

CSR: Small: Efficient and Scalable Systems Support for Mobile Group Formation, Inference, Recommendation and Classification
National Science Foundation.
Amount: $500,000.00. (2015 - 2021)
PI: Richard Han. Co-PIs: Qin Lv and Shivakant Mishra.

Student Travel Support for ACM HotMobile 2016
National Science Foundation.
Amount: $9,800.00. (2015 - 2016)
PI: Shivakant Mishra.

CSR: Medium: Highly Scalable and Accurate System Support for Detecting Misbehaving Users and Mitigating Criminal Activities in Realtime Online Video-Based Services.
National Science Foundation.
Amount: $700,000.00. (2012 - 2016)
PI: Shivakant Mishra. Co-PIs: Richard Han and Qin Lv.

Graduate Teaching Fellows in Ethnically Diverse Classrooms: A Collaborative Model for Impacting Science Teaching and Learning in Boulder County, Colorado Public Schools.
National Science Foundation.
Amount: $2,800,693.00. (2008-2015).
PI: Lesley Smith. Co-PI: William Bowman and Shivakant Mishra.

Graduate Teaching Fellows in Ethnically Diverse Classrooms: A Collaborative Model for Impacting Science Teaching and Learning in Boulder County, Colorado Public Schools.
National Science Foundation. (Supplement Funding).
Amount: $42,516.00. (2008-2015).
PI: Lesley Smith. Co-PIs: William Bowman and Shivakant Mishra.

CiC (FRCC): Towards a Mobile Cloud Computing Framework to Support Next-Generation Mobile Applications.
National Science Foundation.
Amount: $370,000.00. (2011 - 2014)
PI: Richard Han. Co-PIs: Qin Lv and Shivakant Mishra.

Collaborative Research: IDBR: WildSense: Instrumenting Wildlife to Gather Contact Rate Information Using Delay Tolerant Wireless Sensor Networks.
National Science Foundation.
Amount: $528,968.00. (2008 - 2013).
PI: Shivakant Mishra. Co-PI: Richard Han.

Mainstreaming Cybersecurity Research and Practice into Undergraduate Education.
National Science Foundation.
Amount: $675,000.00 (NSF: $540,000.00; IBM, CU-UROP, College of Engineering: $135,000.00). (2003-2008).
PI: Shivakant Mishra. Co-PIs: Lecia Barker, Dennis Heimbigner, and Alex Wolf.

REU Site: Research Experience for Undergraduate Students in Cybersecurity at the University of Colorado, Boulder.
National Science Foundation.
Amount: $282,197.00 (2003-2007). *Funds came from Air Force Office of Scientific Research.*
PI: Shivakant Mishra. Co-PI: Alex Wolf.

Research Issues in the Next Generation Group Communication Services.
Department of Defense.
Amount: $330,462.00 (1997-2000).
PI: Shivakant Mishra.

High Speed Cluster Computing at the University of Wyoming.
National Science Foundation.
Amount: $83,633.00 (1997-1998).
PI: Shivakant Mishra. Co-PI: Matthew Haines and Rex Gantenbein.

Some Practical Issues in the Design and Implementation of Group Communication Services.
Air Force Office of Scientific Research.
Amount: $152,132.00 (1996-1999).
PI: Shivakant Mishra.

Research Grants (Non-Federal Agencies)

An Architectural Blueprint to Support Competitive Intelligence and Position to Win.
Lockheed Martin.
Amount: $30,000.00. (2018 - 2019).
PI: Shivakant Mishra. Co-PI: James Martin.

MobiEn - Analysis, Prediction and Scheduling of Energy Usage on Mobile Devices.
Nokia Research Center.
Amount: $26,400.00. (2011 - 2014).
PI: Shivakant Mishra.

Fluid Engage.
Mellon Foundation.
Amount: $100,000.00. (2009-2010).

Grants/Gifts (Industries and Non-University Sources)

Google Cloud Platform Education Grant.
Google.
Amount: $2,200.00 (2021-2022)

Amazon Web Services in Education Coursework Grant.
Amazon.
Amount: $3,000.00 (2015-2016)

Amazon Web Services in Education Coursework Grant.
Amazon.
Amount: $5,100.00 (2013-2014)

Amazon Web Services in Education Research Grant.
Amazon.
Amount: $4,100.00 (2012-2013)

Misbehavior Detection in Chatroulette.
Chatroulette.
Gift Amount: $5,000.00. (2011 - 2013)

Grants and Fellowships (University Sources)

System Support to Enable AI at the Edge.
NSF IUCRC Center on Pervasive Personalized Intelligence.
Amount: $150,000 (2021-2023).

Empowering Neighboring Communities to Mitigate I-70 Construction Impacts.
The Office of Outreach and Engagement, University of Colorado, Boulder.
Amount: $24,000 (2018-2020).
PI: Shivakant Mishra. Co-PI: Shelly Miller.

Universal Design Fellowship.
Office of Information Technology.
Amount: $1,000 (2016-2017).

Mobile App for CU-Boulder as a Living Museum.
CU Museum of Natural History.
Amount: $2,800 (2013-2014).
CoPI: D. Aldama

ANDROC: Wi-Fi Based Seamless Network Connection Application for Smartphones.
Engineering Excellence Fund. College of Engineering and Applied Sciences, University of Colorado.
Amount: $1,759.00 (2010-2011).

A Sensor Based Tracking System Using Witnesses.
Engineering Excellence Fund. College of Engineering and Applied Sciences, University of Colorado.
Amount: $2,000.00 (2004-2005).

Development of a Decision Support System and Databases for Agrochemical Management.
Wyoming Agricultural Experiment Station Competitive Grant Program.
Amount: $60,000.00 (1997-2000).
PI: Renduo Zhang. Co-PI: Shivakant Mishra.

Formal Specification and Verification of Agent Based Computing Protocols.
Faculty Grant-in-aid. University of Wyoming.
Amount $5,000.00 (1999-2000).
PI: Shivakant Mishra. Co-PI: James Caldwell.

A Dependable Agent-Based Computing System for the Internet.
Faculty Fellowship. Wyoming Space Grant Consortium (NASA).
Amount: $7,024.00 (1998).

Heterogeneity Issue in Group Communication Services.
Faculty Grant-in-aid. University of Wyoming.
Amount $5,000.00 (1997-1998).

Constructing Dependable Distributed Software on a Heterogeneous Computing Platform.
Undergraduate Research Seed Money. Wyoming Space Grant Consortium (NASA).
Amount: $3,600.00 (1997-1998).

Web-Based Interactive Study Aids for COSC 4740.
Internet and Distance Education Course Development. University of Wyoming.
Amount $5,609.00 (1997-1998).

Performance and Flow Control in Group Communication.
Faculty Grant-in-aid. University of Wyoming.
Amount $5,000.00 (1996-1997).

Relevance of Communication Cost on the Performance of Dependable Distributed Software.
Undergraduate Research Seed Money. Wyoming Space Grant Consortium (NASA).
Amount: $3,600.00 (1996-1997).

A Toolkit of Services for Constructing Dependable Distributed Software.
Undergraduate Research Seed Money. Wyoming Space Grant Consortium (NASA).
Amount: $3,600.00 (1995-1996).

Fault-Tolerant Communication Substrate.
Basic Research Grant. University of Wyoming.
Amount $2,500.00 (1994-1995).

Journal & Top Conference Publications

2024

M. Kurdi, N. Albadi and S. Mishra. "Ten Seconds Can Last Longer: Prevalence, Impact, and User Perceptions of Food Cues on Snapchat." The 26th ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW 2024). To appear.

2023

K. Alanezi and S. Mishra. "Towards a Scalable Architecture for Building Digital Twins at the Edge." The First ACM/IEEE Workshop on Digital Twins. To be held in conjunction with The Eighth ACM/IEEE Symposium on Edge Computing (SEC 2023), December 2023.

M. Khasgiwale, V. Sharma, S. Mishra, B. Thadachi, J. John and R. Khanna. "Shimmy: Accelerating inter-container communication for the IoT Edge." 2023 IEEE Global Communications Conference (GlobeCom 2023), December 2023.

J. Miao, D. Rajasekhar, S. Mishra, S. Nayak and R. Yadav. "A Fog-based Smart Agriculture System to Detect Animal Intrusion." The 29th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2023), December 2023.

O. Hammad, Md. R. Rahman, N. Clements, S. Mishra, S. Miller and E. Sullivan. "PureNav: A Personalized Navigation Service for Environmental Justice Communities Impacted by Planned Disruptions." The 2023 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2023), November 2023.

D. Rajasekhar, J. Miao, S. Mishra, S. Nayak and R. Yadav. "Intelligent Irrigation Technique for LoRa Enabled Fog Assisted Smart Agriculture." The 9th IEEE World Forum on Internet of Things, (IEEE WFIoT2023), October 2023.

S. Mishra, S. Nayak and R. Yadav. "An Energy Efficient LoRa-based Multi-Sensor IoT Network for Smart Agriculture System." IEEE Topical Conference on Wireless Sensors and Sensor Networks, January 2023 (WisNet 2023).

2022

S. Pidikiti, J. Zhang, R. Han, Q. Lv, T. Lehman, S. Mishra. "Understanding How Readers Determine the Legitimacy of Online Medical News Articles in the Era of Fake News." Disease Control Through Social Network Surveillance, Springer Nature, October 08, 2022.

K. Alanezi, S. Mishra S. "Utilizing Microservices Architecture for Enhanced Service Sharing in IoT Edge Environments." IEEE ACCESS. 10 (January 01, 2022): 90034-90044.

Y. Wang, R. Han, T. Lehman, Q. Lv, S. Mishra. "Do Twitter users change their behavior after exposure to misinformation? An in-depth analysis." SOCIAL NETWORK ANALYSIS AND MINING. 12 (1) (December 01, 2022): ARTN 167.

K. Alanezi, N. Albadi, O. Hammad, M. Kurdi, S. Mishra. "Understanding the Impact of Culture in Assessing Helpfulness of Online Reviews." The 2022 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM), November 2022

N. Albadi, M. Kurdi, S. Mishra. "Deradicalizing YouTube: Characterization, Detection, and Personalization of Religiously Intolerant Arabic Videos." In The 25th ACM Conference on Computer Supported Cooperative Work and Social Coomputing (CSCW '22), 2022.

W. Yang, T. Huang, J. Zeng, L. Chen, S. Mishra and Y. Liu. "Utilizing Players' Playtime Records for Churn Prediction: Mining Playtime Regularity." IEEE Transactions on Games. Volume 14, Issue 2, 153 - 160, June 2022.

2021

M. Nazari, S. Goodarzy, S. Mishra, E. Rozner and E. Keller. "Optimizing and Extending Serverless Platforms: A Survey." International Conference on Software Defined Systems (SDS), December 2021

Y. Wang, R. Han, T. Lehman, Q. Lv and S. Mishra. "Analyzing Behavioral Changes of Twitter Users After Exposure to Misinformation." International Symposium on Foundations of Open Source Intelligence and Security Informatics (FOSINT), 2021.

M. Kurdi, N. Albadi and S. Mishra. ""Think before you upload": an in-depth analysis of unavailable videos on YouTube." SOCIAL NETWORK ANALYSIS AND MINING. 11 (2021): ARTN 48.

J. Ahn, A. Mysore, K. Zybko, C. Krumm, D. Lee, D. Kim, R. Han, S. Mishra and T. Hobbs. "Intelligent Robust Base-Station Research in Harsh Outdoor Wilderness Environments for Wildsense." KSII Transactions on Internet and Information Systems, Vol. 15, No. 3, March 2021.

U. Dutta, R. Hanscom, J. Zhang, R. Han, T. Lehman, Q. Lv and S. Mishra. "Analyzing Twitter Users Behavior Before and After Contact by the Russia's Internet Research Agency." In the Proceedings of the ACM on Human-Computer Interaction, Vol 5, Issue $CSCW_1$, April 2021.

H. Boddupalli, S. Mishra and M. Almutawa. "What Do Your Smart-Home Devices Reveal About You?" The 5th EAI International Conference on Safety and Security in Internet of Things, April 2021.

K. Alanezi and S. Mishra. "Incorporating Individual and Group Privacy Preferences in the Internet of Things." The Journal of Ambient Intelligence and Humanized Computing, 2021.

K. Alanezi and S. Mishra. "An edge-based architecture to support the execution of ambience intelligence tasks using the IoP paradigm." Elsevier Future Generation Computer Systems. Volume 114 (January 2021).

2020

M. Kurdi, N. Albadi and S. Mishra. "Video Unavailable": Analysis and Prediction of Deleted and Moderated YouTube Videos." In the proceedings of The 2020 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2020), (December 2020).

S. Pidikiti, J. Zheng, R. Han, T. Lehman, Q. Lv and S. Mishra. "Understanding How Readers Determine the Legitimacy of Online News Articles in the Era of Fake News." International Symposium on Foundations of Open Source Intelligence and Security Informatics (FOSINT), 2020.

Yang W, Huang T, Zeng J, Chen L, Mishra S, Liu YE. "Correlation Between Personality and Social Interactions in Online Strategy Games." (IEEE Conference on Games), August 2020

R. Rafiq, H. Hosseinmardi, R. Han, Q. Lv and S. Mishra. "Identifying Differentiating Factors for Cyberbullying in Vine and Instagram." In the proceedings of The 7th International Conference on Information Management and Big Data (SIMBig20), October 2020.

R. Rafiq, R. Han, Q. Lv and S. Mishra. "BullyAlert- A Mobile Application for Adaptive Cyberbullying Detection." In the proceedings of The 11th EAI International Conference on Mobile Computing, Applications and Services (EAI MobiCASE 2020), September 2020.

2019

J. Zhang, M. Gartrell, R. Han, Q. Lv and S. Mishra. "GEVR: An Event Venue Recommendation System for Groups of Mobile Users." In The ACM Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT) (2019).

N. Albadi, M. Kurdi, S. Mishra. "Investigating the effect of combining GRU neural networks with handcrafted features for religious hatred detection on Arabic Twitter space." SOCIAL NETWORK ANALYSIS AND MINING. 9 (1) (August 05, 2019): ARTN 41.

N. Albadi, M. Kurdi, S. Mishra. ""Hateful People or Hateful Bots? Detection and Characterization of Bots Spreading Religious Hatred in Arabic Social Media." In The 22nd ACM Conference on Computer Supported Cooperative Work (CSCW '19), 20

W. Yang, G. Yang, T. Huang, J. Zeng, J. Cai, L. Chen, S. Mishra and Y. E. Liu "Mining Player In-game Time Spending Regularity for Churn Prediction in Free Online Games". In The IEEE Conference on Games (CoG 2019), London, UK (August 2019).

M. Abranches, S. Goodarzy, M. Nazari, S. Mishra and E. Keller. "Shimmy: Shared Memory Channels for High Performance Inter-Container Communication". In The 2nd USENIX Workshop on Hot Topics in Edge Computing (HotEdge 2019), Renton, WA (July 2019).

2018

N. Albadi, M. Kurdi and S. Mishra. "Are They Our Brothers? Analysis and Detection of Religious Hate Speech in the Arabic Twittersphere". In the proceedings of The 2018 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2018), Barcelona, Spain (August 2018).

K. Alanezi and S. Mishra. "A Privacy Negotiation Mechanism for IoT". In the proceedings of The 16th IEEE International Conference on Dependable, Autonomic and Secure Computing (DASC 2018), Athens, Greece (August 2018).

R. Rafiq, H. Hosseinmardi, R. Han, Q. Lv and S. Mishra. "Scalable Detection of Cyberbullying in Online Social Networks". In the proceedings of The 33rd ACM/SIGAPP Symposium On Applied Computing (SAC 2018), Pau, France (April 2018).

2017

S. Zhang, K. Alanezi, M. Gartrell, R. Han, Q. Lv and S. Mishra. "Understanding Group Event Scheduling via the OutWithFriendz Mobile Application". In the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT), 1(4) December 2017. Presented in Ubicomp 2018 (October 2018).

J. Zhu, Y. Im, S. Mishra and S. Ha. "Calibrating Time-variant, Device-specific Phase Noise for COTS WiFi Devices". In the 15th ACM Conference on Embedded Networked Sensor Systems (SenSys 2017), Delft, The Netherlands (November 2017).

M. Roshanaei, R. Han and S. Mishra. "EmotionSensing: Predicting Mobile User Emotions". In the 2017 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2017), Sydney, Australia (August 2017).

M. Roshanaei, R. Han and S. Mishra. "Having Fun?: Personalized Activity-based Mood Prediction in Social Media". A chapter in Prediction and Inference from Social Networks and Social Media. Springer-Verlag. ISBN 978-3-319-51048-4. March 2017.

K. Alanezi, R. Rafiq, L. Chen and S. Misha. "Leveraging BLE and Social Trust to Enable Mobile In Situ Collaborations". In the Proceedings of the 11th ACM International Conference on Ubiquitous Information Management and Communication (IMCOM 2017), Beppu, Japan (January 2017).

2016

J. Ahn, A. Mysore, K. Zybko, C. Krumm, S. Thokala, X. Xing, M. Lian, R. Han, S. Mishra and T. Hobbs. "WildSense: Monitoring Interactions among Wild Deer in Harsh Outdoor Environments Using a Delay-Tolerant WSN". Hindawi Journal of Sensors, Volume 2016. [17 Pages].

S. Li and S. Mishra. "Optimizing power consumption in multicore smartphones". Elsevier Journal of Parallel and Distributed Computing, Vol. 95, September 2016. [14 Pages].

H. Hosseinmardi, R. Rafiq, R. Han, Q. Lv and S. Mishra. "Prediction of Cyberbullying Incidents in a Media-based Social Network". In the 2016 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2016), San Francisco, CA (August 2016). [8 Pages]. Acceptance rate: 30%.

R. Rafiq, H. Hosseinmardi, S. A. Mattson, R. Han, Q. Lv, S. Mishra. "Analysis and detection of labeled cyberbullying instances in Vine, a video-based social network". Social Network Analysis and Mining. 6 (1) (December 2016).

2015

M. Roshanaei and S. Mishra. "Studying the Attributes of Users in Twitter Considering Their Emotional States". Springer Social Network Analysis and Mining, 5(34), December 2015.

K. Alanezi, X. Zhou, L. Chen and S. Mishra. "Panorama: A Framework to Support Collaborative Context Monitoring on Co-Located Mobile Devices". In the 7th EAI International Conference on Mobile Computing, Applications and Services (MobiCASE 2015), Berlin, Germany (November 2015). [18 Pages] Acceptance rate: 25%.

S. Li and S. Mishra. "A Middleware for Power Management in Multicore Smartphones". EAI Endorsed Transactions on Energy Web, 15(4), November 2015.
Note: This is an extended version of a paper with the same title that appeared in MobiQuitous 2015.

J. Ahn, J. Williamson, M. Gartrell, R. Han, Q. Lv and S. Mishra. "Supporting Healthy Grocery Shopping via Mobile Augmented Reality". ACM Transactions on Multimedia Computing Communications and Applications. Special issue on Smartphone-based Interactive Technologies, Systems and Applications. Volume 12, Issue 1s, October 2015.

R. Rafiq, H. Hosseinmardi, S. Mattson, R. Han, Q. Lv and S. Mishra. "Careful What You Share in Six Seconds: Detecting Cyberbullying Instances in Vine". In the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2015), Paris, France (August 2015). [6 Pages]. Acceptance rate: 30%.

S. Li and S. Mishra. "A Middleware for Power Management in Multicore Smartphones". In the *12th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services* (Mobiquitous 2015), Coimbra, Portugal (July 2015). [10 Pages]. Acceptance rate: 27%.

K. Alanezi and S. Mishra. "Design, Implementation and Evaluation of a Smartphone Position Discovery Service for Accurate Context Sensing". Elsevier International Journal on Computers and Electrical Engineering. Special issue on Pervasive and Context Aware Middleware. Volume 44, Pages 307-323 (May 2015).

2014

S. Thokala, P. Koundinya, S. Mishra and L. Shi. "Virtual GPS: A Middleware for Power Efficient Localization of SmartphonesUsing Cross Layer Approach". In the 15th ACM/IFIP/USENIX International Middleware Conference (Middleware 2014), Bordeaux, France (December 2014). [8 Pages]. Acceptance rate: 18%.

L. Tian, R. Rafiq, S. Li, D. Chu, R. Han, Q. Lv and S. Mishra. "Multi-modal Fusion for Flasher Detection in a Mobile Video Chat Application". In the *11th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services* (Mobiquitous 2014), London, UK (December 2014). [10 Pages]. Acceptance rate: 19.4%.
Note: **Nominated for the best paper award.**

H. Hosseinmardi, R. Rafiq, S. Li, Z. Yang, R. Han, S. Mishra and Q. Lv. "A Comparison of Common Users across Instagram and Ask.fm to Better Understand Cyberbullying". In the *7th IEEE International Conference on Social Computing and Networking* (SocialCom2014), Sydney, Australia (December 2014). [8 Pages]. Acceptance rate: 30%.

M. Al-Mutawa and S. Mishra. "Data Partitioning: An Approach to Preserving Data Privacy in Computation Offload in Pervasive Computing Systems". In *The 10th ACM International Symposium on QoS and Security for Wireless and Mobile Networks* (Q2SWinet 2014), Montreal, Canada (September 2014). [10 Pages]. Acceptance rate: 30%.

J. N. Molina and S. mishra."CUDSwap: Tolerating Memory Exhaustion Failures in Cloud Computing". In *The 2nd IEEE International Conference on Cloud and Autonomic Computing* (CAC 2014), London (September 2014). [10 Pages]. Acceptance rate: 25%.

M. Roshanaei and S. Mishra. "An Analysis of Positivity and Negativity Attributes of Users in Twitter". In the *2014 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining* (ASONAM 2014), Beijing, China (August 2014). [6 Pages]. Acceptance rate: 18%.

H. Hosseinmardi, R. Han, Q. Lv, S. Mishra and A. Ghasemianlangroodi. "Towards Understanding Cyberbullying Behavior in a Semi-Anonymous Social Network". In the *2014 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining* (ASONAM 2014), Beijing, China (August 2014). [9 Pages]. Acceptance rate: 18%.

B. Dixon and S. Mishra. "Time and Location Power Based Malicious Code Detection Techniques for Smartphones". In the *13th IEEE International Symposium on Network Computing and Applications* (NCA 2014), Cambridge, MA (August 2014). [8 Pages]. Acceptance rate: 30%.

2013

K. Alanezi and S. Mishra. "Enhancing Context-Aware Applications Accuracy with Position Discovery". In the *10th IEEE/EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services* (MobiQuitous 2013), Tokyo, Japan (December 2013). [10 Pages]. Acceptance rate: 28%.

L. Tian, S. Li, J. Ahn, D. Chu, R. Han, Q. Lv and S. Mishra. "Understanding User Behavior at Scale in a Mobile Video Chat Application". In the *2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing* (UbiComp 2013), Zurich (September 2013). [10 Pages]. Acceptance rate 23.4%.

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NOTE: This paper was nominated for the best paper award in the conference.

S. Mishra and H. Kuntur. Security Architecture of the DaAgent System. In the *Proceedings of the 13th IASTED International Conference on Parallel and Distributed Computing and Systems* (PDCS 2001), Anaheim, CA (August 2001).
NOTE: This paper won the best paper award in the conference.

S. Mishra and P. Xie. Communication and Synchronization Models in Mobile Agent-Based Computing Systems. In the *Proceedings of the 14th ISCA International Conference on Parallel and Distributed Computing Systems* (PDCS 2001), Richardson, TX (August 2001).

S. Mishra. Agent Fault Tolerance Using Group Communication. In the *Proceedings of the 2001 International Conference on Parallel and Distributed Processing Techniques and Applications* (PDPTA 2001), Las Vegas, NV (June 2001).

S. Mishra and S. Gui. Statistical Analysis of Security Violations in Computer Software. In the *Proceedings of the 16th ISCA International Conference on Computers and Applications* (CATA 2001), Seattle, WA (March 2001).

S. Mishra, H. Kuntur and Y. Huang. Programming Environment of DaAgent. In the *Proceedings of the 12th IASTED International Conference on Parallel and Distributed Computing and Systems* (PDCS 2000), Las Vegas, NV (November 2000).

S. Mishra and Y. Huang. Fault Tolerance in Agent-Based Computing Systems. In the *Proceedings of the 13th ISCA International Conference on Parallel and Distributed Computing Systems* (PDCS 2000), Las Vegas, NV (August 2000).

S. Mishra and P. Xie. Models for Interagent Communication and Synchronization. In the *Proceedings of the 2000 International Conference on Parallel and Distributed Processing Techniques and Applications* (PDPTA 2000), Las Vegas, NV (June 2000).

J. van Baalen, J. Caldwell and S. Mishra. Specifying and Checking Fault-tolerant Agent-based Protocols using Maude. In the *Proceedings of the 1st Goddard Workshop on Formal Approaches to Agent-Based Systems*, Greenbelt, MD (April 2000).

S. Mishra and J. Ward. Replicated Revision Control System. In the *Proceedings of the 11th IASTED International Conference on Parallel and Distributed Computing and Systems* (PDCS 1999), Cambridge, MA (November 1999).

S. Mishra, X. Jiang and B. Yang. Providing Fault Tolerance to Mobile Intelligent Agents. In the *Proceedings of the ISCA 8th International Conference on Intelligent Systems*, Denver, CO (June 1999).

S. Mishra and G. Pang. Design and Implementation of an Availability Management Service. In the *Proceedings of the ICDCS Workshop on Middleware*, Austin, TX (June 1999).

S. Mishra. Constructing Applications Using the Timewheel Group Communication Service. *Proceedings of the 1998 International Conference on Parallel and Distributed Processing Techniques and Applications* (PDPTA 1998), Las Vegas, NV (July 1998).

S. Mishra, C. Fetzer and F. Cristian. The Timewheel Group Membership Protocol. *Proceedings of the 3rd IEEE Workshop on Fault-tolerant Parallel and Distributed Systems* (FTPDS 1998), Orlando, FL (April 1998).

S. Mishra, C. Fetzer and F. Cristian. The Timewheel Asynchronous Atomic Broadcast Protocol. *Proceedings of the 1997 International Conference on Parallel and Distributed Processing Techniques and Applications* (PDPTA 1997), Las Vegas, NV (June 1997), 1239–1248.

S. Mishra. An Experimental Study of Distributed System Behavior. *Proceedings of the 12th ISCA International Conference on Computers and their Applications* (CATA 1997), Phoenix, AZ (March 1997), 171–174.

S. Mishra. Constructing Dependable Distributed Software for Space Applications. *Proceedings of the 1996 Wyoming Space Grant Symposium*, Laramie, WY (October 1996), 9–10.

F. Cristian and S. Mishra. A Toolkit of Services for Implementing Fault-Tolerant Distributed Protocols. *Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications* (PDPTA 1996), Sunnyvale, CA (August 1996) 789–800.

S. Mishra. Distributed System Behavior in the Presence of Asynchrony and Failures. *Proceedings of the 11th International Conference on Systems Engineering*, Las Vegas, NV (July 1996) 420–425.

S. Mishra and D. Wang. Choosing an Appropriate Checkpointing and Rollback Recovery Algorithm for Long-Running Parallel and Distributed Applications. *Proceedings of the International Conference on Computers and their Applications* (CATA 1996), San Francisco, CA (March 1996), 24–27.

F. Cristian and S. Mishra. Automatic Service Availability Management in Asynchronous Distributed Systems. *Proceedings of the Second International Workshop on Configurable Distributed Systems*, Pittsburgh, PA, (March 1994), 58–68.

F. Cristian, R. De Beijer and S. Mishra. Comparing How Well Asynchronous Atomic Broadcast Protocols Perform. *Proceedings of the Third International Workshop on Responsive Computer Systems*, Lincoln, NH, (Sept 1993), 192–204.

S. Mishra, L. Peterson and R. Schlichting. Protocol Modularity in Systems for Managing Replicated Data. *Proceedings of the Second Workshop on Management of Replicated Data*, Monterey, CA (November 1992).

S. Mishra, L. Peterson and R. Schlichting. Communication Substrate for Maintaining Replicated Data. *Proceedings of the First Workshop on Management of Replicated Data*, Houston, TX (November 1990), 125–128.

R. Schlichting, S. Mishra and L. Peterson. Fault-Tolerance Aspects of the Psync IPC Mechanism (with R. Schlichting and L. Peterson). *IEICE Technical Report*, Vol. 89, No 12 (April 1990), 47–54, (Invited Paper).

S. Mishra and P. Srimani. A Fault Tolerant Algorithm for Mutual Exclusion in Computer Networks. *Proceedings of the Canadian Information Processing Society Computer Conference*, Edmonton, Canada (November 1987).

S. Mishra and P. Srimani. A Robust Algorithm for Mutual Exclusion in Computer Networks. *Proceedings of the 1987 Fall Joint Computer Conference*, Dallas, TX (October 1987), 335–342.

S. Mishra, S. Mitra and M. Thakur. An Analytical Model for Software Reliability. Computer Society of India Convention, New Delhi (March 1985).

Posters, Demos and Fastabstracts

K. Alanezi and S. Mishra. "Individual and Group Based Privacy Negotiation Mechanism for IoT". In the 4^{th} IEEE European Symposium on Security and Privacy (Euro S&P). Stockholm, Sweden (June 2019). Poster.

M. Roshanaei, R. Han and S. Mishra. "Features for mood prediction in social media". In the 2015 IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2015), Paris, France (August 2015). Poster.

S. Mishra. "Fastabstract: Cyber Safety: Making Internet Dependable for Users". In the *45th Annual IEEE/IFIP International Conference on Dependable Systems and Networks* (DSN 2015), Rio de Janeiro, Brazil (June 2015). Fastabstract.

H. Hosseinmardi, S. Mattson, R. Rafiq, R. Han, Q. Lv, and S. Mishra. "Poster: Detection of Cyberbullying in a Mobile Social Network: Systems Issues". In the *13th ACM International Conference on Mobile Systems, Applications, and Services* (MobiSys 2015), Florence, Italy (May 2015). Poster.

S. Li and S. Mishra. "Power Aware Core Scheduling in Multicore Smartphones". A demo at the *Thirteenth IEEE International Conference on Pervasive Computing and Communications* (PerCom 2015), St. Louis, MO (March 2015). Demo.

M. Gartrell, K. Alanezi, L. Tian, R. Han, Q. Lv and S. Mishra. "Mobile Group Recommendation: Understanding Group Dynamics and Design Challenges". In the *16th International Workshop on Mobile Computing Systems and Applications* (HotMobile 2015), Santa Fe, NM (February 2015). Poster.

M. Al-Mutawa (Research advisor: S. Mishra). "Preserving Data Privacy Through Data Partitioning in Mobile Application". Student research competition at the *ACM SIGCSE 2013*, Denver, CO (March 2013). Demo.

L. Tian, J. Ahn, H. Cheng, X. Xing, Y. Liang, R. Han, Q. Lv, S. Mishra, D. Chu and X. Liu. "MVChat: Flasher Detection for Mobile Video Chat". In the *10th International Conference on Mobile Systems, Applications and Services* (Mobisys'12), Lake District, UK (June 2012). Demo.

M. Al-Mutawa and S. Mishra. "A System Demo of CID3". In the *17th ACM Annual International Conference on Mobile Computing and Networking* (ACM MobiCom 2011), Las Vegas (Septeber 2011). Demo.

B. Ray and S. Mishra. "Support for Robust Storage and Communication Using Cell Phones". In the 39th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2009), Lisbon, Portugal (June 2009). Fastabstract.

J. Deng, R. Han, and S. Mishra. Defending Against Traffic Analysis Attacks in Wireless Sensor Networks. In the *13th USENIX Security Symposium*, San Diego, CA (August 2004). Poster.

J. Deng, R. Han, and S. Mishra. Secure and Robust Loose Time Synchronization Mechanism for Wireless Sensor Networks. In the *13th USENIX Security Symposium*, San Diego, CA (August 2004). Work-in-progress report.

M. Marwah and S. Mishra. Extensions to ST-TCP. In the *Proceedings of the 2004 IEEE International Conference on Dependable Systems and Networks* (DSN 2004), Florence, Italy (June 2004). Fastabstract.

S. Mishra. Intrusion Tolerant Key Management for Large Group Multicast. In the *Proceedings of the 2003 IEEE International Conference on Dependable Systems and Networks* (DSN 2003), San Francisco, CA (June 2003). Fastabstract.

J. Huang and S. Mishra. Mykil: A Highly Scalable and Efficient Key Distribution Protocol for Large Group Multicast. Poster paper. In the *23rd IEEE International Conference on Distributed Computing Systems* (ICDCS 2003), Providence, RI (May 2003). Poster.

J. Deng, R. Han, and S. Mishra. INSENS: Intrusion-Tolerant Routing in Wireless Sensor Networks. In the *23rd IEEE International Conference on Distributed Computing Systems* (ICDCS 2003), Providence, RI (May 2003). Poster.

S. Mishra and S. Tanaraksiritavorn. Middleware Support for Constructing Highly Available and Dependable Services. In the *Proceedings of the 2002 IEEE International Conference on Dependable Systems and Networks* (DSN 2002), Washington, D.C. (June 2002). Fastabstract.

C. Fetzer and S. Mishra. Transparent TCP/IP based Replication. In the *Proceedings of the 29th IEEE International Symposium on Fault-tolerant Computing* (FTCS 1999), Madison, WI (June 1999). Fastabstract.

S. Mishra, Y. Huang, and H. Kuntur. DaAgent: A Dependable Mobile Agent System. In the *Proceedings of the 29th IEEE International Symposium on Fault-tolerant Computing* (FTCS 1999), Madison, WI (June 1999). Fastabstract.

Book Chapters

M. Marwah and S. Mishra. Wireless IP Telephony. A chapter in The Handbook of Computer Networks. Editor: H. Bidgoli. John Wiley & Sons, Inc. December 2007.

J. Deng, R. Han and S. Mishra. Security, Privacy, and Fault Tolerance. In *Wireless Sensor Networks*, Artech House, 2005.

S. Mishra. Building a Secure and Highly Scalable Data Distribution System. In *Intelligent Information Technology*, Lecture Notes in Computer Science, LNCS 3356. Editors: G. Das and V. P. Gulati. January 2005.

H. Dai, S. Mishra and M. Hiltunen. CORBA-as-Needed: A Technique to Construct High Performance CORBA Applications. In *High Performance Computing*, Lecture Notes in Computer Science, LNCS 2552. Editors: S. Sahni, V. K. Prasanna, and U. Shukla. December 2002.

J. van Baalen, J. Caldwell and S. Mishra. Specifying and Checking Fault-tolerant Agent-based Protocols using Maude. *Lecture Notes in Artificial Intelligence*. Editors: J. L. Rash, C. A. Rouff, W. Truszkowski, D. Gordon, M. G. Hinchey. Number 1871, Springer Verlag, October 2001.

S. Mishra and S. M. Kuntur. Improving Performance of Atomic Broadcast Protocols Using the Newsmonger Technique. *Dependable Computing for Critical Applications 7*. Editors: J. Rushby and C. B. Weinstock. IEEE Computer Society Press, 1999.

G. Alvarez, F. Cristian and S. Mishra. On-Demand Fault-Tolerant Atomic Broadcast Protocol. *Dependable Computing for Critical Applications 4*. Editors: V. R. Iyer, V. Gligor, M. Morganti. IEEE Computer Society Press, 1995.

R. De Beijer, F. Cristian and S. Mishra. Comparing How Well Asynchronous Atomic Broadcast Protocols Perform. *Responsive Computer Systems: Steps toward Fault-tolerant Real-time System*. Editors: D. Fussell and M. Malek. Kluwer Academic Publishers, Norwell, MA, 1995.

R. Schlichting, S. Mishra and L. Peterson. Constructing Dependable Distributed Systems Using Consul. *Foundations of Dependable Computing, System Implementation*, Editors: G. M. Koob and C. G. Lau. Kluwer Academic Publishers, Boston 1994.

S. Mishra, L. Peterson and R. Schlichting. A Membership Protocol Based on Partial Order. *Dependable Computing for Critical Applications 2*. Editors: J. F. Meyer and R. D. Schlichting. Springer-Verlag, Vienna 1992.

Miscellaneous Publications

S. Mishra. Mobile Agent Systems: Current Trends. Invited paper. *1st IEEE Workshop on Distributed Computing and Agent Technologies* (DC-AT 2002), Fort Worth, TX, October 2002.

S. Mishra. Constructing Dependable Distributed Software on a Network of Windows NT and Unix Workstations. Attendee Usage abstract. *3rd USENIX Windows NT Symposium*, Seattle, WA, July 1999.

S. Mishra. Design and Implementation of Dependable Distributed Services on Next Generation Internet. A white paper for the *CRA Workshop on Research Directions for the Next Generation Internet*, Vienna, VA, 1997.

S. Mishra and R. Schlichting. Abstractions for Constructing Dependable Distributed Systems. Technical Report: TR 92-19. Department of Computer Science, University of Arizona, Tucson, AZ, 1992.

S. Mishra. Consul: A Communication Substrate for Fault-Tolerant Distributed Programs. *Ph.D. Dissertation*. Department of Computer Science, University of Arizona, Tucson, AZ, 1992.

S. Mishra. Robust Mutual Exclusion Algorithms in Distributed Systems. *M.S. Thesis*. Department of Computer Science, Southern Illinois University, Carbondale, IL, 1987.

S. Mishra. Devanagari Script Text Processing Systems. *B.Tech. Project Report*. Department of Computer Science & Engineering, Indian Institute of Technology, Bombay, 1985.

Current Students

Md. Rezwanur Rahman; Ph.D. (Started in Fall 2021)
Chris Godley; Ph.D. (Started in Fall 2017
Jingpao Miao; Ph.D. (Started in Fall 2017)
Fei Hu; Ph.D. (Started in Fall 2019)

Ph.D. Students Graduated

Nuha Albadi (Summer 2023), Assistant Professor, Taibah University.
Dissertation Title: Religious Hatred in Arabic Social Media: Analysis, Detection, and Personalization.

Maram Kurdi (Summer 2023), Assistant Professor, Taif University.
Dissertation Title: An Exploration of the Negative Impact of Social Media and Strategies for Intervention.

Omar Hammad (Summer 2023), Assistant Professor, King Fahd University of Petroleum and Minerals.
Dissertation Title: A Socio-Technical System to Understand and Mitigate the Negative Impacts of Planned Disruptions on People Well-being.

Rahat Ibn Rafiq (Fall 2018), Assistant Professor, Grand Valley State University, Allendale, MI.
Dissertation Title: Scalable and Timely Detection of Cyberbullying in Online Social Networks.

Mahnaz Roshanaei (Summer 2016), Research Scientist, Stanford University
Dissertation Title: Study and Analysis of Emotions in Online Social Networks and Smartphones.

Khaled Alanezi; (Summer 2016), Assistant Professor, Abdullah Al Salem University, Kuwait.
Dissertation Title: Supporting Collaborations Between Co-Located Devices for Context Monitoring in a Mobile Environment.

Mohammad Al-Mutawa (Summer 2013), Assistant Professor, Kuwait University.
Dissertation Title: Providing a Better Computing Experience While Preserving Data Privacy Through Hardware, Software and Data Partitioning in Pervasive Computing Environment.

Bryan Dixon (Summer 2013), Associate Professor, California State University, Chico, CA
Dissertation Title: Exploring Low Profile Techniques for Malicious Code Detection on Smartphones.

Alireza Mahdian (Fall 2012), Google Inc.
Dissertation Title: Towards the Next Generation of Online Social Networks.

Soontaree Tanaraksiritavorn (Fall 2009).
Dissertation Title: Privacy Preserving and Reliable Byzantine Fault-Tolerance in Group Communication System.

Jyh-How Huang (Fall 2008), Associate Professor, National Taiwan University of Sport.
Dissertation Title: Occasionally Connected Wireless Sensor Networks for Search and Rescue and Wildlife Monitoring.

Manish Marwah (Summer 2008), Micro Focus (Part of HP Labs earlier).
Dissertation Title: Enhanced Server Fault Tolerance for Improved User Experience.

Jing Deng (Summer 2006), QualComm.
Dissertation Title: Securing wireless sensor networks through intrusion tolerant design.

M.S./M.E. Students Graduated

Gopala Kanugo (Spring 2023)
Kunal Mehta (Spring 2023)
Vasu Sharma (Fall 2022)
Manan Khasgiwale (Summer 2022)
Srihaasa Pidikiti (Spring 2021)
Omar Hammad (Spring 2019)
Josiah Buxton (Spring 2019)
Subir Padhee (Fall 2017)
Peter Elespuru (Spring 2013)
Lukas Jeter (Spring 2011).
Thomas Kooh (Summer 2010).
Lon Riesberg (Spring 2010).
Narasimha Prasad Subraveti (Summer 2004).
Soontaree Tanaraksiritavorn (Summer 2001).
Nija Shi (Summer 2001).
Shengxiang Gui (Summer 2000).
Peng Xie (Summer 2000).
Xiao Lin (Summer 2000).
Harshavardhan Kuntur (Spring 2000).
Yanjun Huang (Fall 2000).
Kishore Ventkatesan (Fall 2000).
Lan Fei (Summer 1999).
Guming Xing (Summer 1999).
Xuyang Jiang (Summer 1999).
Bozheng Yang (Spring 1999).
Guozhao Pang (Spring 1999).
Dongbin Fan (Fall 1998).
James Ward (Summer 1998).
Sudha M. Kuntur (Summer 1998).
Rongguang Yang (Fall 1997).
Lei Wu (Summer 1997).
Dongliang Wang (Summer 1995).

Jianming Xu (Summer 1995).

Undergraduate Thesis Advisor

William Studer; B.S.; University of Colorado; (Graduated in Summer 2006).
William Kirkwood; B.S.; University of Wyoming; (Graduated in Summer 1998).
Chris Schock; B.S.; University of Wyoming; (Graduated in Summer 1997).
Young Hyun; B.S.; University of Wyoming ; (Graduated in Summer 1996).

In addition, I have been a member of Ph.D. dissertation committee or M.S/M.E. thesis committee of more than 50 students over the last fifteen years.

Recent Professional Activities

- **Associate Editor:** Springer Journal on Social Network Analysis and Mining (SNAM).
- **Industry Advisory Board Meeting Organizer:** NSF IUCRC on Pervasive Personalized Intelligence, Boulder, CO (April 2023).
- **Tutorial Chair:** The 2021 IEEE/ACM International Conference on Social Network Analysis and Mining (ASONAM 2021), The Hague, Netherlands (November 2021).
- **Industry Advisory Board Meeting Organizer:** NSF IUCRC on Pervasive Personalized Intelligence (Virtual) (October 2021).
- **Program Committee Co-Chair:** The Fifth Workshop on Computational Methods in Online Misbehavior (CyberSafety 2020). Held in conjunction with The Web Conference in April 2020, Taipei.
- **Steering Committee Member:** The Fourth International Workshop on Computational Methods in Online Misbehavior (CyberSafety 2019). Held in conjunction with The Web Conference, May 2019, San Francisco, CA.
- **Program Committee Co-Chair:** The Third International Workshop on Computational Methods for CyberSafety, Online Harassment and Misinformation (CyberSafety 2018). Held in conjunction with The Web Conference in April 2018 in Lyon, France.
- **General Chair:** The 47th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2017), Denver, CO (June 2017).
- **General Chair:** The Second International Workshop on Computational Methods for CyberSafety (CyberSafety 2017). Held in conjunction with The 26th International Conference on World Wide Web (WWW 2017), Perth, Australia (April 2017).
- **Sponsorship Chair:** The 17th ACM International Workshop on Mobile Computing Systems and Applications (HotMobile 2017), Sonoma, CA (February 2017).

- **General Chair:** The First International Workshop on Computational Methods for CyberSafety (CyberSafety 2016). Held in conjunction with The 25th ACM International Conference on Information and Knowledge Management (CIKM 2016) in October 2016 in Indianapolis, IN.
- **Sponsorship Chair:** The 16th ACM International Workshop on Mobile Computing Systems and Applications (HotMobile 2016), St. Augustine, FL (February 2016).
- **Program Committee Co-Chair:** The Sixth EAI International Conference on Mobile Computing, Applications and Services (MobiCASE 2014), Austin, TX (November 2014).
- **Doctoral Dissertation Colloquium Chair:** The 2012 International Conference on Collaboration Technologies and Systems (CTS 2012), Denver, CO.
- **Birds-of-a-Feather Organizer:** The 38th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2008), Anchorage, AK (June 2008).
  TOPIC: *Key Dependability Issues and Future Directions for Research in the Area of Computing with Cell Phones*.
- **Program Committee Co-Chair:** The 2nd ACM/SIGMOBILE Workshop on Dependability Issues in Wireless Ad Hoc Networks and Sensor Networks (DIWANS 2006), Los Angeles, CA (September 2006).
- **Program Committee Co-Chair:** The First IEEE International Workshop on Practical Issues in Building Sensor Network Applications (SenseApp 2006), Tampa, FL (November 2006).
- **Publicity Co-Chair:** The 20th IEEE Symposium on Reliable Distributed Systems (SRDS-20), New Orleans, LA (October 2001).
- **Local Arrangement Chair:** The 11th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN 2001), Boulder, CO (March 2001).

Recent Program Committee

- ICPADS 2023, COLLA 2023
- SAC 2022, SMARTCOMP 2022, ASONAM 2022
- SAC 2021, SMARTCOMP 2021, ASONAM 2021
- ASONAM 2020, CoG 2020, CyberSafety 2020
- ASONAM 2019, CoG 2019
- ICNC 2018
- DEPEND 2017, ICNC 2017, Fog World Congress 2017
- DEPEND 2016, WINSYS 2016, ICNC 2016

- ICNC 2015, DEPEND 2015, WINSYS 2015, ICOT 2015
- CyberSecurity 2014, WINSYS 2014, DCNET 2014
- GlobeCom 2013, PDCN 2013, CyberSecurity 2013, WINSYS 2013
- DCNET 2012, WC 2012, WWW 2012, PDCN 2012
- DSN 2011, DCNET 2011, WC 2011, WWW 2011, PDCN 2011
- DSN 2010, GC10-AHSN, DCNET 2010, WC 2010, WWW 2010, PDCN 2010
- DSN 2009, PDCS 2009, WWW 2009, WOC 2009, PDCS 2009, PDCN 2009
- DSN 2008, DCOSS 2008, PDCS 2008, WWW 2008, WOC 2008, WRAITS 2008

NSF Panel

- Served on two to three NSF panels per year over the last ten years.

Conference Tutorial

- TOPIC: *Dependable Computing over Wireless Sensor Networks.* Presented at the 2006 IEEE International Conference on Dependable Systems and Networks (DSN 2006), Philadelphia, PA (June 2006).
- TOPIC: *Dependable Distributed Computing over Wireless Sensor Networks.* Presented at the 17th IASTED International Conference on Parallel and Distributed Computing & Systems, Phoenix, AZ (November 2005).
- TOPIC: *Mobile, Agent-Based Computing Paradigm: A Distributed Computing Paradigm for the Next Generation of Computing over the Internet.* Presented at the 10th IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS 2002), Fort Worth, TX (October 2002).
- TOPIC: *Mobile, Agent-Based Computing Paradigm: A Distributed Computing Paradigm for the Next Generation of Computing over the Internet.* Presented at the 13th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS 2002), Anaheim, CA (August 2001).

Keynote Speaker

- The International Conference on Technology and Information Systems (ICTIS 2010), Amritsar, India (November 2010).
- The 14th International Conference on Advanced Computing and Communication (ADCOM 2006), Surathkal, India (December 2006).
- The First IEEE International Workshop on Distributed Computing and Agent Technologies (DC-AT 2002), Fort Worth, TX (October 2002).

Recent Invited Talks

- CyberSafety: The Next Critical Challenge in Internet Usage. Department of Computer Science, Colorado State University, Fort Collins, CO (February 2016).
- SenSearch: An Occasionally Connected Wireless Sensor Network for Search & Rescue and Wildlife Monitoring. Department of Electrical & Computer Engineering, University of Wyoming, Laramie, WY (October 2008).
- WildSense: Instrumenting Wildlife to Gather Contact Rate Information Using Delay Tolerant Wireless Sensor Networks. NSF IDBR Workshop, Arlington, VA (September 2008).
- Craft: Enhanced Server Fault Tolerance Techniques for Improved User Experience. Department of Computer Science and Engineering, University of Texas at Arlington (November 2007).
- Fault Tolerant and Scalable TCP Splice and Web Server Architecture. Department of Computer Science & Automation, Indian Istitute of Science, Banglore (December 2006).
- Fault Tolerant and Scalable TCP Splice and Web Server Architecture. Department of Computer Science & Engineering, Indian Istitute of Technology, New Delhi (November 2006).
- CenWits: A Sensor-Based Loosely Coupled Search and Rescue System Using Witnesses. Nebraska Research Expo, Lincoln, Nebraska (March 2006).
- CenWits: A Sensor-Based Loosely Coupled Search and Rescue System Using Witnesses. Department of Computer and Information Science, Concordia University, Montreal, Canada (September 2005).
- Mykil: A Secure and Highly Available Key Management System for Large Group Multicast. Department of Computer Science & Engineering, IIT, New Delhi, India (December 2005).
- Mykil: A Secure and Highly Available Key Management System for Large Group Multicast. CableLabs, Inc., Louisville, CO. September 2004.
- TCP Server Fault Tolerance Using Connection Migration to a Backup Server. Department of Computer Science, Orgon State University, Corvallis, OR. September 2003.
- Mobile Agent Systems: Current Trends. In the *1st IEEE International Workshop on Distributed Computing and Agent Technologies* (DC-AT 2002), Fort Worth, TX. October 2002.
- Developing Intrusion-Tolerant Systems. Department of Computer Science, University of Wyoming, Laramie, WY. August 2002.

Referee

- ACM Transactions on Computer Systems
- IEEE Transactions on Communications
- IEEE Transactions on Parallel & Distributed Systems

- IEEE Transactions on Software Engineering
- Distributed Systems Engineering Journal
- IEEE/ACM Transactions on Networking
- Journal of Parallel and Distributed Computing
- Software Practice & Experience
- Wireless Networks: The Journal of Mobile Communication, Computation and Information
- Several conferences

Professional Society Membership

- ACM, IEEE, USENIX, ISCA, IASTED.

Outreach Activities

- I have been working with three environmental justice communities (Elyria-Swansea, Globeville and Cole) in Denver that have been majorly impacted by The Central 70 construction project. We are building a socio-technical system comprised of sensors, smartphone apps and cloud servers to understand the impact of this construction on their health & well-being and mitigate any negative impacts. (Since 2017).
- Volunteered to give a guest lecture in the Osher Lifelong Learning Institute (OLLI), a program designed for people age 50+ wishing to pursue intellectual learning opportunities in a relaxed, stimulating, and socially interactive atmosphere (May 2019).
  Title: Strengthening Democracy Through Technology.
- Held informational session on cyberbullying with 5th grade class at Brown International Academy in North West Denver (April 2019).
- Volunteered for CRA Congressional Fall Fly-In (2016) and interacted with lawmakers in Washington DC to help make the case for federal support for computing research.
- Helped install and manage two wireless sensor networks, one in CU Mountain Research Station and the other in BVSD's Sombrero Marsh. These networks were used for studying extreme environment. Real time sensor data collected from these networks was used in several lesson plans (hands-on activities) that I helped developed for 4th and 5th grade science curriculum in BVSD schools.
- Organized several overnight field trips for 4th/5th grade students to CU Mountain Research Station, and day-trips to CU campus and Boulder Valley School District's Sombrero Marsh (more than ten BVSD schools)
- Science fair judge for three years at Peak to Peak middle and high schools as well as for regional science fair competitions.

- Election judge to monitor the operation of electronic voting machines during 2006 and 2008 elections.
- Several graduate recruiting visits in India (IIT Delhi, IISc Banglore, SGSITS Indore) and USA (PAN IIT conference)

University Level Service (Last ten years)

- Member: University of Colorado Boulder Faculty Assembly (BFA) (2011 - Present)
- Member: BFA Academic Affairs Committee (2020 - Present)
- Member: Honors Council Advisory Board (2019 - Present)
- Member: A&S Honors Council Representative (2017 - 2022)
- Member: BFA Grade Replacement Policy Committee (2018 - 2019)
- Co-Chair: BFA Grievance Advisory Committee (2015 - 2020)
- Member: University Administrative Services and Technology Committee (2011-2015)
- Member: Faculty IT Advisory Committee (2012 - 2015)
- Member: University Faculty-Based LMS (Learning Management Systems) Review Committee (2013)

College Level Service (Last ten years)

- Co-Chair: Faculty Affairs Committee (2023 - Present)
- Member: First Level Review Committee (2023 - Present)
- Member: Faculty Governance Council (2023 - Present)
- Member: Large Proposal Faculty Roundtable (2018)
- Member: CEAS Curriculum Committee (2017)
- Member: Mock-up Review Panel for the CAREER proposals (2014)
- Chair: College PhD Dissertation Awards Committee (2011-12, 2012-13)
- Member: Energy Minor Task Force (2013-14)
- Member: Graduate Education Discussion Group at Engineering Advisory Committee Meeting (2013)
- Member: College Blue Ribbon Committee - Annual Assessment Reports (2012)

Department Level Service (since 2001)

- Associate Chair: Graduate Program (2006 - 2016; 2018 - 2022)
- Associate Chair: Undergraduate Program (2016 - 2018)
- Chair: Department Space Committee (2018 - 2019)
- Mentor: Assistant professor Eric Rozner (2018 -)
- Chair: Department Awards Committee (2018 - 2019)
- Co-Chair: Department Curriculum Committee (2016 - 2018)
- Post tenure review coordinator (2015 - 2022)
- Chair: Primary Unit Evaluation Committee (2017-18)
- Member: Primary Unit Evaluation Committee (2015-Present)
- Member: Academic Review and Planning Committee (2017-18)
- Member: Faculty Recruiting Committee (2016-17)
- Member: Department Executive Committee (2015 - 2017)
- Mentor: Assistant professor Dan Szafir (2015 - 2016)
- Graduate Director: Department of Computer Science (2006 - 2014)
- Member: Department Graduate Committee (2003 - 2005; 2015 - 2016)
- Member: Interdisciplinary Telecommunications Program (ITP) Faculty Recruiting Committee (2010)
- Member: Department Faculty Recruiting Committee (2016, 2008, 2007, 2006, 2001)
- Mentor: Assistant professor Richard Han (2007, 2006, 2005)
- Member: Department Computing Committee (2006, 2005)
- Member: Renovation of college computing lab - ECEE 2B80 (2004)
- Member: Department Resource Committee (2001)

Press Coverage

- Press coverage of my research on socio-technical system for empowering environmental justice communities:

  Colorado Public Radio (CPR): The Most Polluted Zip Code Part 1
  https://www.youtube.com/watch?v=Pcx3mi4nDA8

  Colorado Public Radio (CPR): The Most Polluted Zip Code Part 2
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