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RESEARCH INTERESTS

Communications/computer networks and wireless/mobile computing, with emphasis on Internet measurement, data analytics, anomaly detection, software-defined networking, and edge intelligence (e.g., AIoTs).

Collaborative, interdisciplinary research applying data science and ML/AI techniques to emerging societal-scale applications in Smart Health and Intelligent Transportation domains, and the associated security & privacy issues.

EDUCATION

2001 Ph.D. in Electrical Engineering & Computer Sciences, University of California, Berkeley, CA
Thesis: A Scalable Framework for IP-Network Resource Provisioning
Advisor: Prof, Randy H. Katz

1997 M.S. in Electrical Engineering & Computer Sciences, University of California, Berkeley, CA
Thesis: Capacity of Multi-Antenna Array Systems
Advisors: Prof. Joseph M. Kahn and Prof. David N. Tse

1995 B.S. in Electrical Engineering, Rutgers University, Piscataway, NJ

PROFESSIONAL EXPERIENCE

2020-	Child Family Professor in Engineering, Electrical & Computer Engineering, UC Davis, CA
Since 2019	Co-Director, Center for Data Science and Artificial Intelligence Research (CeDAR), University of California Davis (UC Davis), CA
Since 2010	Professor, Electrical & Computer Engineering (ECE) Department, UC Davis, CA
2017-2019	Faculty Affiliate, Computational Research, Lawrence Berkeley Laboratory (LBNL), Berkeley, CA
2016-2017	Visiting Professor, School of Computer Science and Engineering, Nanyang Technology University, Singapore
2008-2010	Vice Chair & Associate Professor, ECE Department., UC Davis, CA Designated chair for ECE Graduate Program
2006-2008	Associate Professor, ECE Department, UC Davis, CA
2002-2006	Assistant Professor , ECE Department, UC Davis, CA
2002-present	Member of Graduate Group of Computer Science, UC Davis, CA
2001- 2002	Visiting Researcher (Leave of absence from UC Davis) Sprint Advanced Technology Laboratories – IP Group, Burlingame, CA

1995-2001	Graduate Student Research and Teaching Assistant, Electrical Engineering & Computer Sciences, University of California, Berkeley, CA
Summer 1998	Research Intern, Lucent Technologies – UMTS Technology & Trials Group, UK
Summer 1997	Research Intern, Lucent Technologies Bell Laboratories – Wireless Communications, Crawford Hill, NJ
Summer 1994	Technical Associate, AT&T – Wireless Network Core Technologies, Whippany, NJ

AWARDS/HONORS

2024	AAAS Fellow UC Davis College of Engineering Outstanding Senior Faculty Award
2021	UC Davis IEEE Student Association's Professor of the Year Award
2020	UC Davis Child Family Professor in Engineering
	UC Davis ADVANCE Scholar Award
2015	IEEE Fellow
2012	ACM Distinguished Scientist
2008	UC Davis Chancellor's Fellow
2005	Narus[1] Research Fellow
	ACM Recognition of Service Award, in appreciation for co-organizing the First ACM Workshop on Vehicular Ad Hoc Networks (VANET) at ACM MobiCom 2004
2004	College of Engineering - Outstanding Junior Faculty Award, UC Davis
2003	National Science Foundation (NSF) CAREER Award
1998	Recognition Award, Lucent Technologies-UK
1998	IEEE Globecom'98 Student Travel Grant
1997	Schlumberger Foundation Graduate Fellowship, UC Berkeley
1995	Tau Beta Pi Graduate Fellowship Award
	Helen Bangle and Earl Anthony Fellowship Award, UC Berkeley
	Outstanding Engineering Scholar, College of Engineering, Rutgers University
	John Smith Memorial Prize and James Leroy Potter Award, ECE Department, Rutgers University
1994	SWE/Hewlett Packard Annual Scholarship Award
1993	Outstanding Junior Initiate Award, Golden Key National Honor Society
1993-95	Engineering Merit Scholarship, Rutgers College of Engineering
1991	Individual and Team Gold Medal, Penang State Mathematics Olympiad, Malaysia

RESEARCH GRANTS

Federal

- NIH National Institute of Aging, "The Neuropathologic Landscape of Alzheimer's Disease in Hispanic Decedents," $6,052,959, 8/15/2024-7/31/2029, **Co-Investigator** with B. Dugger (Lead PI), L. Garcia, L.

[1] Narus -- acquired by Symmantec -- is a proven pioneer in cyber security data analytics for enterprises, carriers, and governments around the world

Bechkett, D. Mungas, and L. Carvajal-Carmona; External PIs: David Gutman (Emory Univ.) and P. Muchelucci (Human Computation Institute)

- NIH National Center for Advancing Translational Sciences, "Monitoring of Disease-Induced Skin VOC patterns from Handheld and Wearable Chemical Sensors," $5,904,077, 6/22/2022-05/31/2027, **Co-Investigator** with C. Davis (Lead PI), N. Kenyon (PI), R. Sivamani, R. Harper, M. Schivo, J. Schweitzer, D. Hessl, B. Wise, and T. Wun
- National Institute of Health, 1R01MH121344-01, "Novel Video-based Approaches for Detection of Autism Risk in the First Year," $3.45 million, 09/09/2019 – 06/30/2024, **Co-Investigator**, with S. Ozonoff (lead-PI) and S. Cheung.
- National Science Foundation CCF-1934568, "HDR TRIPODS: UC Davis TETRAPODS Institute of Data Science," $1,500,000, 2019-22, **Co-PI**, with N. Saito (Lead-PI), A. Amenta, and C. M. Lee.
- Department of Defense (DoD) - Air Force Research Lab (AFRL), "VentRight Technologies: Portable Ventilation Monitoring Optimizing Critical Care across the Ventilation Continuum," $3,404,977, 2019-22, **Co-PI**, with M. A. Johnson (lead-PI), J. Adams
- National Institute of Health, RADx-RAD SCENT-U18TR003795, "Portable GC Detector for Breath-Based COVID Diagnostics," $1,873,961, 2020-22, **Key Personnel.** (Lead PIs: Christina Davis, UCD and Nicholas Kenyon, UCDH)
- National Institute of Health, R21HD099239-02, "Improving Critical Congenital Heart Disease Screening and Detection of "Secondary" Targets," $432,999, 2019-22, **Senior/Key Personnel**, with H. Siefkes (Lead-PI), S. Lakshminrushimha, W. Hogan, G. Satou, R. Koppel
- Department of Transportation (DoT) CFDA#: 20.701 Subcontract from "Center for Transportation, Environment, and Community Health (CTECH) at Cornell University, "Improving Security and User Privacy in Learning-based Traffic Signal Controllers," $45,000, 2021-22. **PI**.
- Department of Defense (DoD) Congressionally Directed Medical Research Program Office (CDMRP) # W81XWH1820072, "Endovascular Perfusion Augmentation for Critical Care (EPACC): Personalized and Adaptive Therapy for Resuscitation After Trauma," $4,485,000, 2018-21, **Co-PI**, with M. A. Johnson (lead-PI) and J. Adams, and external collaborators from Wake Forest School of Medicine, the United States Air Force Medical Group, and the Naval Medical Research.
- DoE Subcontract from UC Lawrence Berkeley Laboratory, "Privacy-Preserving Vehicle Mobility Data Analysis," $32,655.46, Mar-Sep 2020, **PI**.
- NIH Clinical and Translational Science Center (CTSC) Highly Innovative Award, "Leveraging Big Data Analytics for Precision Medicine in Critical Care – Development of Statistical & Machine Learning Methods for Managing Acute Respiratory Failure Requiring Mechanical Ventilation," $50,000, 2016-17, **Lead-PI**, with J. Adams (Dept. of Internal Medicine), J. P. Delplanque (MAE), N. Anderson (Dept. of Public Health Sciences)
- National Science Foundation CNS-1302691**, "**NeTS: Medium: Collaborative Research: Towards Building Time Capsule for Online Social Activities," $913K, 2013-18, **Lead-PI**, with R. D'Souza (CS) and external PI, J. Xu (Georgia Inst. of Technology)
- National Science Foundation CNS-1321115**, "**NeTS: Small: Beating the Odds in Traffic Measurements/Detection with Optimal Online Learning and Adaptive Policies," $300K, 2013-16, **Lead-PI**, with Q. Zhao (ECE)
- National Science Foundation GENI "Shakedown Experiments and Prototype Services on Scalable, Agile, Robust, and Secure Multi-Domain Software Defined Networks," $280K, 2013-15, **co-PI**, with S. J. Ben Yoo (lead-PI) and M. Bishop

- National Science Foundation CMMI-1301496, "User-Centric Sensing and Distributed Control of Corridor Transportation Networks," $424,998, 2013-18, **co-PI**, with M. Zhang (lead-PI) and D. Ghosal
- National Science Foundation NeTS-Medium-0905273, "Collaborative Research: Towards Versatile and Programmable Measurement Architecture for Future Networks," $800K, 2009-12, **Lead-PI**, with external collaborators: J. Xu (Georgia Institute of Technology), Z. Zhang (Univ. of Minnesota), and B. Lin (UC San Diego).
- National Science Foundation GENI "Davis Social Links," $600,000, 2009-12, **Co-PI** with Felix S. F. Wu (lead-PI) and P. Siegel.
- National Science Foundation CT-ISG-0716831, "Collaborative Research: Accurate Sampling of the Internet for Effective Anomaly Detection," $350K, 2007-10, **Lead-PI,** with external collaborator: J. Xu (Georgia Institute of Technology)
- National Science Foundation CMMI-0700383, "Distributed Vehicular Traffic Management via DSRC-Enabled Vehicles," $341,074, 2007-10, **Co-PI**, with M. Zhang (lead-PI) and D. Ghosal
- National Science Foundation CAREER Award 0238348, "RoSE: Robust, Stable, and Secure Routing," $427,333, 2003-08, **PI**
- National Science Foundation NeTS-NBD Grant #0520320, "Automatic Validation, Optimization, and Adaptation of Distributed Firewalls for Network Performance and Security," $400K, 2005-08, **PI**, with: H. Chen and Z. Su (Computer Science)
- National Science Foundation NeTS-NBD Collaborative Research Grant#0520333, "Intelligent and Adaptive Networking for the Next Generation Internet," $200K, 2005-06, **Co-PI**, with S. J. Yoo, B. Olshausen, S. Wu, K. Levitt. External collaborator: R. H. Katz (UC Berkeley)
- National Science Foundation Networking Research Testbed (NRT) Grant#0335301, "Unified Networking Research Testbed for the Next Generation Optical Network," $300K , 2003-05, **Co-PI**, with S. J. Yoo, V. Akella, and J. Heritage

State

- Statewide Transportation Research Program (STRP) Grant / UC Institute of Transportation Studies (UC ITS), "Synthetic Mobility Data Generation with Differential Privacy," $100,005, 2023-24, **PI**.
- Univ. of California Micro Program, "SAND: Accurate Sampling of the Internet for Effective Anomaly Detection," $45,500, 2007-08, **PI** (with matching funds from Sprint and Narus)
- Univ. of California Micro Program, "Resource Management in Wireless Mesh Networks (Year 1-3)," $214,800, 2005-08, **Co-PI,** with P. Mohapatra and X. Liu (with matching funds from Intel, Hewlett Packard, Nokia)
- Univ. of California Micro Program, "Mobile Infrastructure Enablers for Streaming Optimization & New Services (Year 1-3)," $63,533.75, 2004-07, **PI** (with matching funds from Hewlett Packard and Fujitsu)
- Univ. of California Micro Program, "Improving Network Robustness and Survivability," $13,202, 2003-04, **PI** (with matching funds from Fujitsu)

Industry, Foundations, and Seed Grants

- UCD Health Collaborative for Diagnostic Innovation – Improving Diagnosis in Health Care, "Applying Supervised machine Learning to Assist in Hypertension Disorder of Pregnancy Diagnosis Using Electrocardiogram Waveforms," $10,000, 2023-24, **Co-PI** (Lead: Dr. Lihong Mo, UCDH)
- Noyce UC Partnership, "Data-and Label-Efficient Deep-Learning Frameworks for Neuropathology and Neuroradiology Image Analysis," $200,000, 2022-23, **Lead PI** (with Dr. Brittany Dugger, UCDH, Dr. Michael Keiser, UCSF, and Dr. Peter Chang, UC Irvine).

- Robert Noyce Trust, "Cross-Layer Approach to Enhance Security/Privacy of AI-enabled IoT Eco-Systems," $450,000, 2021-23, **Lead-PI** (with Dr. Zubair Shafiq and Dr. Houman Homayoun)
- CITRIS Seed Funding, "Predicting Cancer Patients Who Develop Venous Thromboembolism Episodes sing Routine Patient Care Data and Machine Learning Techniques,", $50,000, 2018-19, **Co-PI** (with Lead PI: Dr. Theodore Wun, and Co-PI: Dr. Prabhu Shankar)
- UCD Health Collaborative for Diagnostic Innovation, "Validation of A Machine Learning-based Automated ARDS Diagnostic Test," $28,715.52, 2018-19, **Co-PI** (with lead-PI Prof. Jason Adams, and co-PI Prof. Nathan Kuppermann)
- Intel Science and Technology Center on Secure Computing (ISTC-SC), "Multi-Dimensional Data Analytics for Uncovering Malicious Activities in Mobile/Wireless Traffic", $150,000, 2013-14, **PI**
- Hewlett Packard Labs Innovation Research Program, "Programmable Measurement Framework for Uncovering Global Events in Dynamic Network Environment," $225,000, 2011-14, **PI**
- Google Research Award, "Measurement-Driven Activity Graph Modeling and Sybil Identity Detection for OSN-based Applications," $42,203, 2012, **PI**
- Gift from AT&T-Labs Research, "Measurement-based Characterization of Online Social Networks and Applications," $25,000, 2010-11, **PI**
- Gift from Hewlett-Packard, "Network Coding Based Cooperative Peer-to-Peer Repair", $25,000, 2008-09, **PI**
- CITRIS Seed Funding, "Programmable Real-time Traffic Analysis on Many-Core Architectures," $50,000, 2007-08, **Co-PI: C-N. Chuah** (with lead PI: Prof. S. Ghiasi)
- Gift from Intel, "Wireless Management Overlay (WiMO)", $210,000, 2005-08, **PI,** with P. Mohapatra.
- Gift from Sprint Advanced Technology Laboratories, "Network Sampling and Anomaly Detection," $75,000, 2005-08, **PI**
- Gift from Narus, Inc., "BGP Anomaly Detection," $55,000, 2005-08, **PI**
- Gift from Hewlett-Packard, "Mobile Infrastructure Enablers for Streaming Optimization & New Services (Year 1-3)," $75,000, 2004-07, **PI**
- Gift from Fujitsu, "Improving Network Robustness and Survivability," $35,000, 2003-06, **PI**
- Gift from Hewlett-Packard, "Performance study of Overlay Networks and PlanetLab," $15,000, 2004-05, **PI**
- CENIC, "High-Performance Networking and Collaborative Real-Time Visualization for the Next Generation CalREN," $38,000, June-Dec 2004, **co-PI** (with lead PI: Prof. S. J. Yoo, and co-PIs: Prof. B. Hamann, and Prof. O. Staadt)
- Gift from Sprint Advanced Technology Laboratories and Fujitsu, "Characterizing and Improving IP Network Availability," $60,000, 2003-04, **PI**
- Gift from Microsoft, "Smart Classroom II," $35,000, 2003-04, **Co-PI**, with S. J. Yoo, B. Hamann, and O. Staadt
- Cisco Systems URP Program, "Inter-Domain Policy Distribution & Traffic Engineering," $72,000 (Cash) + $168,000 (equipment), 2002-03, **PI**

University of California

- Univ. of California, Davis - Faculty Research Grant, "Network Infrastructure Support for Collaborative Virtual Reality Systems," $14,000, 2003-04, **PI**

TRAINING/EQUIPMENT GRANTS

- Micron Technology, "Senior Design Projects in Applied Machine Learning and Autonomous Driving," $13,000, 2021, **PI**.
- Department of Education GAANN Program, "Smart and Secure Information Systems with Societal Impact (SSI)," $1.3 million, 2018-23, **Research Director**
- National Science Foundation, Research Experience for Teachers (RET) Site Project "Computing Research Experience for STEM Teachers (CREST)," $500,000, 2011-14, **Senior Personnel**
- National Science Foundation, "Student Travel Support for the 2010 Internet Measurement Conference," $10,000, 2010-11, **PI**.
- Department of Education GAANN Program, "Resilient Information Systems targeting Societal-Scale Applications," $760,032, 2006-10, **PI**
- National Science Foundation, "Student Travel Support for the 2009 Internet Measurement Conference," $10,000, 2009-10, **PI**
- Intel 2006 California Public Affairs Higher Education Equipment Grant, $87,830, 2006-07, **PI (**co-PIs: S. Ghiasi, P. Mohapatra, J. Owens, and K. Wilken)
- Department of Education GAANN Program, "Networked Systems of Embedded Computers," $694,176, 2003-08, **co-PI** (PI: A. Knoesen)
- UC Davis Teaching Resource Center, Undergraduate Instructional Improvement Program, "Location-Aware Applications and Mobile Computing," $5,119, Spring 2005, **PI**
    - Developed a senior-level undergraduate project-elective course, "EEC173B/ECS152C: Design Projects in Communication Networks", which is cross-listed between both the Department of Electrical & Computer Engineering and the Department of Computer Science at UC Davis.
- Microsoft, "Smart Classroom," $35,000, **Co-PI (**PI: S. J. Yoo).

PUBLICATIONS: JOURNAL, BOOK CHAPTERS, & MAGAZINE ARTICLES

[J1] L. Cerny-Oliveira, J. Chauhan, A. Chaudhari, S. Cheung, V. Patel, A. C. Villablanca, L-W. Jin, C. DeCarli, C-N. Chuah, B. N. Dugger, "A Machine Learning Approach to Automate Microinfarct Screening in Hematoxylin and Eosin-stained Human Brain Tissues," *Journal of Neuropathology and Experimental Neurology (JNEN)*.

[J2] A. Haydari, V. Agarwal, M. Zhang, and C-N. Chuah, "Constrained Reinforcement Learning for Fair and Environmentally Efficient Traffic Signal Controllers," *ACM Journal on Autonomous Transportation Systems*, 2024.

[J3] R. Scalco, L. Cerny-Oliveira, Z. Lai, D. Harvey L. Abujamil, C. DeCarli, L-W. Jin, C-N. Chuah, and B. N. Dugger, "Machine learning quantification of Amyloid-b in temporal lobe of 131 Brain Bank Cases," *Acta Neuropathologica Communications*.

[J4] Z. Lai, J. Chauhan, D. Chen, B. Dugger, S-C. Cheung, and C-N. Chuah, "Semi-Path: An Interactive Semi-supervised Learning Framework for Gigapixel Pathology Image Analysis," *Elsevier Smart Health Journal*, (also presented in *IEEE/ACM CHASE*), June 2024.

[J5] H. Siefkes, L. Cerny Oliveira, R. Koppel, W. Hogan, M. Garg, E. Manalo, N. Cresalia, Z. Lai, D. Trancredi, S. Lakshminrusimha, and C-N. Chuah, "Machine Learning Based Critical Congenital Heart Disease Screening using Dual-Site Pulse Oximetry Measurements" *Journal of American Heart Association (JAHA)*, vol. 13, no. 12, June 2024. DOI: https://doi.org/10.1161/JAHA.123.033786

[J6] A. Ramli, X. Liu, K. Berndt, C-N. Chuah, E. Goude, L. B. Kaethler, A. Lopez, A. Nicorici, C. Owens, D. Rodriguez, J. Wang, D. Aranki, C. M. McDonald, and E. K. Henricson, "Gait Event Detection and Travel

Distance Using Waist-Worn Accelerometers across a Range of Speeds: Automated Approach," *Sensors* 24, no. 4:1155, February 2024. https://doi.org/10.3390/s24041155

[J7] C. Gupta, D. Basu, T. K. Williams, M. A. Johnson, L. P. Neff, N. T. Patel, A. S. Ganapathy, M. R. Lane, F. Radaei. C-N. Chuah, and J. Y. Adams, "Improving the Precision of Shock Resuscitation by Predicting Fluid Responsiveness with Machine Learning and Arterial Blood Pressure Waveform Data" *Scientific Reports*, 14, 2227, January 2024.(DOI: https://doi.org/10.1038/s41598-023-50120-5)

[J8] A. Villablanca, B. N. Dugger, S. Nuthikattu, J. Chauhan, S. Cheung, C-N. Chuah, S. L. Garrison, D. Milenkovic, J. E. Norman, L. C. Oliveira, B. P. Smith, and S. D. Brown, "How cy pres promotes transdisciplinary convergence science: an academic health center for women's cardiovascular and brain health," *Journal of Clinical and Translational Science*, vol. 8, issue 1, e16, 1-12. January 2024. DOI: https://doi.org/10.1017/cts.2023.705

[J9] S. Townsley, D. Basu, J. Vora, T. Wun, C-N. Chuah, and P. Shankar, "Predicting Venous Thromboembolism (VTE) Risk in Cancer Patients Using Machine Learning," *Health Care Science*, vol.1, no.2, pp. 93-110, Aug 2023. (DOI: http://doi.org/10.1002/hcs2.55)

[J10] M. Saffarpour, D. Basu, F. Radaei, K. Vali, J. Y. Adams, C-N. Chuah, and S. Ghiasi, "Physiowise: A Hybrid Approach to Dicrotic Notch Identification," *ACM Transactions on Computing for Healthcare*, vol. 4, no.2, pp. 1-17, April 2023. (DOI: https://doi.org/10.1145/3578556)

[J11] L. Cerny Oliveira, Z. Lai, D. Harvey, K. Nzenkue, L-W. Jim, C. DeCarlie, C-N. Chuah, and B. N. Dugger, "Preanalytic variable effects on segmentation and quantification machine learning algorithms for amyloid-b analyzes on digitized human brain slides," *Journal of Neuropathology and Experimental Neurology,* 82(3):212-220, Feb 2023. (DOI: https://doi.org/10.1093/jnen/nlac132)

[J12] A. Khodadadi, S. Ghandiparsi, C-N. Chuah, "A Natural Language Processing Pipeline for Automated Vehicle Diagnostics in Free-Text Customer Service Reports," *Machine Learning with Applications*, vol. 10, December 2022. (DOI: https://doi.org/10.1016/j.mlwa.2022.100424)

[J13] A. Raghuramu, L. Cao, P. Sharma, M. Sanchez, J-M. Kang, C-N. Chuah, D. Lee, and V. Saxena, "Metered Boot: Trusted Framework for Application Usage Rights Management in Virtualized Ecosystems", *IEEE Transactions on Network and Service Management*, vol. 19, no. 3, pp. 2238-2250, September 2022. (DOI: https://doi.org/10.1109/TNSM.2022.3159191)

[J14] C. Liu, J. Tourrilhes, C-N. Chuah, and P. Sharma, "Voyager: Revisiting Available Bandwidth Estimation with a New Class of Methods - Decreasing-Chirp Train Methods," *ACM Transactions on Networking*, vol. 30, no. 4, pp. 1717-1732, August 2022. (DOI: https://doi.org/10.1109/TNET.2022.3152175)

[J15] C-C. Yen, D. Ghosal, M. Zhang, C-N. Chuah, "Security Vulnerabilities and Protection Mechanisms for Backpressure-based Traffic Signal Control," *IEEE Transactions on Intelligent Transportation Systems,* vol. 23, no. 7, pp. 6406-6417, July 2022. (DOI: https://doi.org/10.1109/TITS.2021.3056658)

[J16] C. Wang, M. Tao, C-N. Chuah, J. Nagy, and Y. Lou, "Minimizing L1 over L2 norms on the gradient," *Inverse Problem*, IOP Publishing, , 8(6):065011, June 2022.

[J17] Z. Lai, L. Cerny Oliveira, R. Guo, W. Xu, Z. Hu, K. Mifflin, C. DeCarlie, S-C. Cheung, C-N. Chuah, and B. N. Dugger, "BrainSec: Automated Brain Tissue Segmentation Pipeline for Scalable Neuropathological Analysis," *IEEE Access*, May 2022 (DOI: https://doi.org/10.1109/ACCESS.2022.3171927)

[J18] A. Haydari, M. Zhang, and C-N. Chuah, "Adversarial Attacks and Defense in Deep Reinforcement Learning (Deep-RL) Based Traffic Light Controller," *IEEE Open Journal of Intelligent Transportation Systems*, October 2021. (DOI: https://doi.org/10.1109/OJITS.2021.3118972)

[J19] S. Liaqat, C. Wu, P. R. Duggiarala, S. Cheung, C-N. Chuah, and S. Ozonoff, "Predicting ASD Diagnosis in Children with Synthetic and Imaged-based Eye Gaze Data," *Elsevier Journal on Signal Processing: Image Communication (SPIC) Special Issue on Saliency for ASD Detection*, vol. 94, pp. 116198, May 2021. (DOI: https://doi.org/10.1016/j.image.2021.116198)

[J20] G. B. Rehm, I. Cortes-Puch, B. Kuhn, J. Nguyen, S. A. Fazio, M. A. Johnson, N. R. Anderson, C-N. Chuah, and J. Y. Adams, "Use of Machine Learning to Screen for Early Acute Respiratory Distress Syndrome using Raw Ventilator Waveform Data", *Critical Care Explorations (CCX)*, vol. 3, no. 1, p e0313, January 2021. (DOI: 10.1097/CCE.0000000000000313)

[J21] K. Doshi, G. Rehm, P. Vadlaputi, Z. Lai, S. Lakshminrusimha, C-N. Chuah, and H. M Siefkes, "A Novel System to Collect Dual Pulse Oximetry Data for Critical Congenital Heart Disease Screening Research," *Journal of Clinical and Translational Science*, 5(1), e56, 1-7, accepted October 2020. (**DOI:** https://doi.org/10.1017/cts.2020.550)

[J22] G. B. Rehm, S. H. Woo, X. L. Chen, B. T. Kuhn, I. Cortes-Puch, N. R. Anderson, J. Y. Adams, C-N. Chuah, "Leveraging IoTs and Machine Learning for Patient Diagnosis and Ventilation Management in the Intensive Care Unit," *IEEE Pervasive Computing Magazine*, vol. 19, no. 3, pp. 68-78, July-September 2020. (**DOI:** 10.1109/MPRV.2020.2986767)

[J23] B. Ching, M. Amoozadeh, C-N. Chuah, H. M. Zhang, and D. Ghosal, "Enabling Performance and Security Simulation Studies of Intelligent Traffic Signal Light Control with VENTOS-HIL," *Elsevier Vehicular Communications,* vol. 24, August 2020.

[J24] X. Wang, Q. Deng, J. Ren, M. Malboubi, S. Wang, S. Xu, and C-N. Chuah, "The Joint Optimization of Online Traffic Matrix Measurement and Traffic Engineering for Software-Defined Networks," *IEEE/ACM Transactions on Networking*, vol. 28, no. 1, pp. 234 – 247, February 2020.

[J25] G. B. Relm, B. T. Kuhn, J. Nguyen, N. R. Anderson, C-N. Chuah, J. Y. Adams, "Improving Mechanical Ventilator Clinical Decision Support Systems with A Machine Learning Classifier for Determining Ventilator Mode," *Studies in Health Technology and Informatics, vol. 264 – MedInfo 2019: Health and Wellbeing e-Networks for All*, pp. 318-322, August 2019. (**DOI**: 10.3233/SHTI190235)

[J26] J. Han, D. Choi, T. Chung, C-N. Chuah, H. Kim, and T. Kwon, "Predicting Content Consumption from Content-to-Content Relationships," *Journal of Network and Computer Applications*, vol. 132, no. 15, pp 1-9, April 2019.

[J27] T. Bouchoucha, C-N. Chuah, and Z. Ding, "Topology Inference of Unknown Networks based on Robust Virtual Coordinate Systems," *IEEE/ACM Transactions on Networking*, vol. 27, no. 1, pp. 405-418, February 2019.

[J28] X. Wang, M. Malboubi, J. Ren, S. Wang, S. Xu, and C-N. Chuah, "ProgLIMI: Programmable Link Metric Identification in Software Defined Networks," *IEEE/ACM Trans. on Networking*, vol. 26, no. 5, pp.1558-2566, October 2018.

[J29] G. Relm, J. Han. B. T. Kuhn, J-P. Delplanque, N. R. Anderson, C-N. Chuah, and J. Y. Adams, "Creation of a Robust and Generalizable Machine Learning Classifier for Patient Ventilator Asynchrony," *Methods of Information in Medicine,* vol. 57, no, 4, pp. 208-219, September 2018.

[J30] M. Malboubi, S. M. Peng, P. Sharma, and C. N. Chuah, "A Learning-based Measurement Framework for Traffic Matrix Inference in Software Defined Networks," *Elsevier Computers & Electrical Engineering Journal Special Issue on Network Measurement for Software Defined Networking and Information-Centric Networking*, pp. 369-387, February 2018.

[J31] J. Wu, D. Ghosal, H. M. Zhang, C-N. Chuah, "Delay-based Traffic Signal Control for Throughput Optimality and Fairness at Isolated Intersection," *IEEE Transactions on Vehicular Technology,* vol. 67, no. 2, pp. 896-909, February 2018.

[J32] C. Wang, Q. Zhao, and C-N. Chuah, "Optimal Nested Test Plan for Combinatorial Quantitative Group Testing," *IEEE Transactions on Signal Processing,* vol. 66, no.4, pp. 992-1006, Feb 2018.

[J33] M. Malboubi, Y. Gong, Z. Yang, W. Xiong, C-N. Chuah, and P. Sharma, "Software defined Network Inference with Evolutionary Optimal Observation Matrices," *Elsevier Computer Networks*, vol. 129, no. P1, pp. 93-104, December 2017.

[J34] H. Chai, M. Zhang, D. Ghosal, C-N. Chuah, "Dynamic Traffic Routing in a Network with Adaptive Signal Control," *Elsevier Transportation Research Part C*, vol. 85, pp. 64-85, December 2017.

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[C44] B. Copos, K. Levitt, J. Rowe, P. Kianmajd, C-N. Chuah, and G. Kesidis, "Security and Privacy for Emerging Smart Community Infrastructures," *International Conference on Internet of Things and Big Data (IoTBD)*, April 2016.

[C45] C. Liu, M. Malboubi, and C-N. Chuah, "OpenMeasure: Adaptive Flow Measurement and Inference with Online Learning in SDN," *IEEE Global Internet Symposium*, co-located with *IEEE Infocom*, April 2016. ***(Best Paper Award)***

[C46] A. Das, P. Pathak, C-N. Chuah, and P. Mohapatra, "Uncovering Privacy Leakage in BLE Network Traffic of Wearable Fitness Trackers," *ACM HotMobile (the 17th International Workshop on Mobile Computing Systems and applications)*, February 2016.

[C47] H. Chai, M. Zhang, D. Ghosal, and C-N. Chuah, "Dynamic Traffic Routing in a Network with Adaptive Signal Control," *Transportation Research Board 2016 Annual Meeting*, January 2016.

[C48] X. Wang, M. Malboubi, S. Wang, S. Xu, and C-N. Chuah, "Practical Approach to Identifying Additive Link Metric with Shortest Path Routing," *IEEE Globecom*, Dec 2015.

[C49] J. Han, D. Choi, A. Choi, J. Choi, T. Chung, C-N. Chuah, J. Rha, and T. Kwon, "Sharing Topics in Pinterest: Understanding Content Creation and Diffusion Behaviors," *ACM COSN*, November 2015.

[C50] M. Malboubi, Y. Gong, W. Xiong, C-N. Chuah, and P. Sharma, "Software defined Network Inference with Passive/active Evolutionary-optimal pRobing (SNIPER)," *IEEE International Conference on Computer Communications and Networks (ICCCN)*, August 2015 (Invited Paper).

[C51] C. Buckley, P. H. Pathak, A. Das, C-N. Chuah, and P. Mohapatra, "AnonAD: Privacy-aware Micro-targeted Mobile Advertisement without Proxies," *IEEE International Conference on Computer Communications and Networks (ICCCN)*, August 2015 (Invited Paper).

[C52] A. Das, P. Pathak, C-N. Chuah, and P. Mohapatra, "Characterization of Wireless Multi-Device Users," *IEEE SECON*, June 2015.

[C53] Y. Gong, X. Wang, S. Wang, S. Xu, M. Malboubi, and C-N. Chuah, "Towards Accurate Online Traffic Matrix Estimation in Software-Defined Networks," *ACM Symposium on Software-Defined Networking Research (SOSR)*, June 2015.

[C54] M. R. Rahman, J. Han, and C-N. Chuah, "Unveiling the Adoption and Cascading Process of OSN-based Gifting Applications," *IEEE INFOCOM,* April/May 2015.

[C55] A. Raghuramu, H. Zang, C-N. Chuah, "Uncovering the Footprints of Malicious Traffic in Cellular Data Networks," *Passive & Active Measurement Conference (PAM)*, March 2015.

[C56] C. Wang, Q. Zhao, C-N. Chuah, "Group Testing under Sum Observations for Heavy Hitter Detection," *Information Theory and Application Workshop*, February 2015. (invited paper)

[C57] M. Malboubi, L. Wang, C-N. Chuah, and P. Sharma, "Intelligent SDN based Traffic (de)Aggregation and Measurement Paradigm (iSTAMP)," *IEEE INFOCOM 2014*.

[C58] A. K. Das, P. H. Pathak, C-N. Chuah, and P. Mohapatra, "Contextual Localization Through Network Traffic Analysis," *IEEE INFOCOM 2014*.

[C59] M. Malboubi, C. Vu, C-.N. Chuah, and P. Sharma, "Compressive Sensing Network Inference with Multiple-Description Fusion Estimation," *IEEE Globecom*, December 2013.

[C60] H. Liu, A. Nazir, and C-N. Chuah, "Modeling/Predicting The Evolution of User Activity Graphs on OSN-Based Applications," *WWW*, May 2013.

[C61] M. Malboubi, C. Vu, C-N. Chuah, and P. Sharma, "Decentralizing Network Inference Problems with Multiple-Description Fusion Estimation (MDFE)," *IEEE INFOCOM,* April 2013.

[C62] C. Meixner, F. Dikbiyik, M. Tornatore, C-N. Chuah, and B. Mukherjee, "Disaster-Resilient Virtual-Network Mapping and Adaptation in Optical Networks," *17th International Conference on Optical Network Design and Modeling (ONDM)*, April 2013.

[C63] M. R. Rahman, Y. Hu, C-N. Chuah, and S. Felix Wu, "Social-aware DNS: First Step Towards Future Internet," *ASE International Conference on Social Informatics*, December 2012.

[C64] A. Nazir, A. Waagen, V. S. Vijayaraghavan, C-N. Chuah, R. D'Souza, and B. Krishnamurthy, "Sending Costs More Than Receiving: Modeling User Activity Graphs on Social Network Based Applications" *ACM Internet Measurement Conference*, November, 2012.

[C65] H. Liu, C-N. Chuah, H. Zang, and S. Gatmir-Motahari, "Evolving Landscape Of Cellular Network Traffic," *IEEE ICCCN*, July, 2012.

[C66] C. Chang, G. Huang, H. Liu, B. Lin, and C-N. Chuah, "Distributed Measurement-Aware Routing: Striking A Balance Between Measurement and Traffic Engineering," *IEEE INFOCOM MiniConference*, March 2012.

[C67] M. S. Ilyas, S. Raza, C. Chen, Z. A. Uzmi, and C-N. Chuah, "RED-BL: Energy Solution For Loading Data Centers," *IEEE INFOCOM MiniConference*, March 2012.

[C68] C. Chen, Y. Choe, C-N. Chuah, and P. Mohapatra, "Experimental Evaluation On The Impact Of Packet Capturing For Web Services," *IEEE Globecom*, December 2011.

[C69] F. Khan, N. Hosein, C-N. Chuah, and S. Ghiasi, "Streaming Solutions For Fine-Grained Network Traffic Measurements And Analysis," *ACM/IEEE Symposium on Architectures for Networking and Communication Systems (ANCS)*, October 2011 (one of two best papers fast-tracked to IEEE/ACM Transactions on Networking).

[C70] C. Chang, G. Huang, B. Lin, and C-N. Chuah, "LEISURE: A Framework For Load-Balanced Network-Wide Traffic Measurements," *ACM/IEEE Symposium on Architectures for Networking and Communication Systems (ANCS)*, October 2011.

[C71] C. Chen, L. Yuan, A. Greenberg, C-N. Chuah, and P. Mohapatra, "Routing-as-a-Service (RaaS): A Framework for Tenant-Directed Route Control in Data Center," *IEEE INFOCOM*, April 2011.

[C72] H. Liu, X. Qiu, D. Ghosal, C-N. Chuah, X. Liu, and Y. Fan, "Traffic-Tracing Gateway (TTG)," *IEEE INFOCOM*, April 2011.

[C73] (Leo) X. Liu, G. Cheung, and C-N. Chuah, "Deterministic Structured Network Coding for WWAN Video Broadcast with Cooperative Peer-to-Peer Repair," *IEEE ICIP*, September 2010.

[C74] J. Chu, K. Feng, C-N. Chuah, and C. Liu, "Cognitive Radio Enabled Multi-Channel Access for Vehicular Communications," *IEEE VTC*, September 2010.

[C75] F. Khan, M. Gokhale, and C-N. Chuah, "FPGA-based Network Traffic Analysis using Traffic Dispersion Patterns," *International Conference on Field Programmable Logic and Applications (FPL)*, August 2010.

[C76] A. Nazir, S. Raza, B. Schipper, and C-N. Chuah, "Ghostbusting Facebook: Detecting and Characterizing Phantom Profiles in Online Social Gaming Applications," *USENIX Workshop on Online Social Networks (WOSN)*, June 2010.

[C77] D. Gupta, P. Mohapatra, and C-N. Chuah, "Diagnosing Failures in Wireless Networks using Fault Signatures," *IEEE ICC*, May 2010.

[C78] S. Raza, G. Y. Huang, C-N. Chuah, S. Seetharaman, and J. P. Singh, "MeasuRouting: A Framework for Routing-Assisted Traffic Monitoring," *IEEE INFOCOM*, March 2010.

[C79] B. Liu, B. Khorashadi, D. Ghosal, C-N. Chuah, and M. Zhang, "Assessing the VANET's Local Information Storage Capability under Different Traffic Mobility," *IEEE INFOCOM Mini Conference*, March 2010.

[C80] X. Liu, G. Cheung, C-N. Chuah, and Y. Ji, "Optimal Bit Allocation of WWAN Scalable H.264 Video Multicast to Cooperative Peer-to-Peer Collectives," *IEEE ICASSP special session on Cooperative Media Communications*, March 2010.

[C81] B. Khorashadi, B. Liu, H. Du, D. Ghosal, C-N. Chuah, and M. Zhang, "Smoothing Vehicular Traffic Flow with VGrid," *Transportation Research Board 2010 Annual Meeting*, January 2010.

[C82] A. Nazir, S. Raza, D. Gupta, C-N. Chuah, and B. Krishnamurthy, "Through the Looking Glass: Tracing the Footprints of Online Social Network Applications," *ACM Internet Measurement Conference,* November 2009.

[C83] (Leo) X. Liu, G. Cheung, and C-N. Chuah, "Joint Source/Channel Coding of WWAN Multicast Video for A Cooperative Peer-to-Peer Collective using Structured Network Coding," *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, October 2009. (Top 10% Paper Award).

[C84] R. Keralapura, A. Nucci, and C-N. Chuah, "Self-Learning Peer-to-Peer Traffic Classifier," *IEEE Conference on Computer Communications and Networks (ICCCN)*, August 2009.

[C85] G. Huang, A. Lall, C-N. Chuah, and J. Xu, "Uncovering Global Icebergs in Distributed Monitors," *IEEE IWQoS*, July 2009.

[C86] S. Raza, Y. Zhu, and C-N. Chuah, "Graceful Network Operations," *IEEE INFOCOM*, April 2009. (Acceptance rate: 19.7%)

[C87] D. Gupta, D. Wu, P. Mohapatra, and C-N. Chuah, "Experimental Comparison of Bandwidth estimation tools for Wireless Mesh Networks," *IEEE INFOCOM Mini Conference*, April 2009.

[C88] F. Khan, L. Yuan, C-N. Chuah, and S. Ghiasi, "Programmable and Real-time Network Traffic Measurements," *ACM/IEEE Symposium on Architectures for Networking and Communications Systems*, November 2008. (Acceptance rate: 23.5%)

[C89] A. Nazir, S. Raza, and C-N. Chuah, "Unveiling Facebook: A Measurement Study of Social Network Based Application," *ACM Internet Measurement Conference (IMC)*, October 2008. (Acceptance rate: 10.2%)

[C90] (Leo) X. Liu, G. Cheung, and C-N. Chuah, "Structured Network Coding and Cooperative Local Peer0to-Peer Repair for MBMS Video Streaming," *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, October 2008.

[C91] D. Gupta, P. Mohapatra, and C-N. Chuah, "Efficient Monitoring in Wireless Mesh Networks: Overheads and Accuracy Trade-offs," *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, September 2008. (Best Paper Candidate, acceptance rate: 13%)

[C92] H. Liu, X. Liu, C-N. Chuah, and P. Mohapatra, "Heterogeneous Wireless Accesses in Mesh Networks of Large Size," *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, September 2008. (Acceptance rate: 13%)

[C93] S. Raza, G. Cheung, and C-N. Chuah, "DICoR: Distributed Interference-Aware Cooperative Repair of Multimedia Broadcast Losses," *IEEE BroadNets*, September 2008.

[C94] C-N. Chuah, H. Du, D. Ghosal, B. Khorashadi, B. Liu, C. Smith, H. M. Zhang, "Distributed Vehicular Traffic Control and Safety Applications with VGrid," *IEEE Wireless Hive Networks Conference,* pp. 1-5, August 2008.

[C95] (Leo) X. Liu, G. Cheung, and C-N. Chuah, "Rate-distortion Optimized Network Coding for Cooperative Video Stream Repair in Wireless Peer-to-Peer Networks," *IEEE Workshop on Mobile Video Delivery (MoViD)*, June 2008.

[C96] (Leo) X. Liu, S. Raza, C-N. Chuah, and G. Cheung, "Network Coding Based Cooperative Peer-to-Peer Repair in Wireless Ad-Hoc Networks," *IEEE ICC,* June 2008.

[C97] J. Mai, L. Yuan, and C-N. Chuah, "Detecting BGP Anomalies with Wavelet," *IEEE/IFIP Network Operations and Management Symposium (NOMS)*, April 2008.

[C98] R. Pal and C-N. Chuah, "Characterizing Link Importance in Multi-Channel Multi-Radio Multi-Rate Wireless Mesh Networks," *IEEE WCNC*, March 2008.

[C99] H. Du, M. Zhang, C-N. Chuah, and D. Ghosal, "A Finer Resolution Cellular Automata Model for Inter Vehicle Communication Applications," *Transportation Research Board 2008 Annual Meeting*, 13 pp, January 2008.

[C100] S. Raza and C-N. Chuah, "Interface Split Routing for Finer-Grained Traffic Engineering," *IFIP International Symposium on Computer Performance, Modeling, Measurements, and Evaluation (Performance'07)*, Oct 2007.

[C101] D. Gupta, D. Wu, C. Chen, C-N. Chuah, P. Mohapatra, and S. Rungta, "Experimental Study of Measurement Based Admission Control for Wireless Mesh Networks," *IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS)*, Oct 2007.

[C102] L. Yuan, C-N. Chuah, and P. Mohapatra, "ProgMe: Towards Programmable Network Measurement," *ACM SIGCOMM*, Aug 2007. (Acceptance rate: 13.8%)

[C103] S. Raza, D. Li, C-N. Chuah, and G. Cheung, "Cooperative Peer-to-Peer Repair for Wireless Multimedia Broadcast," *IEEE International Conference on Multimedia & Expo (ICME),* July 2007.

[C104] B. Khorashadi, A. Chen, D. Ghosal, C-N. Chuah, and M. Zhang, "Impact of Transmission Power on the Performance of UDP in Vehicular Ad Hoc Networks," *IEEE Proc. International Conference on Communications (ICC)*, pp. 3698-3703, June 2007.

[C105] H. Liu, H. Yu, X. Liu, C-N. Chuah, and P. Mohapatra, "Scheduling Multiple Partially Overlapped Channels in Wireless Mesh Networks," *IEEE Proc. International Conference on Communications (ICC)*, June 2007.

[C106] J. LeBrun, C-N. Chuah, S. Bhattacharrya, and J. Bolot, "News-feed Subscription Management for Intermittently Connected Environments," *International Workshop on Improved Mobile User Experience (IMUx)*, co-located with *International Conference on Pervasive Computing*, May 2007.

[C107] L. Yuan, K. Kant, P. Mohapatra, and C-N. Chuah, "A Proxy View of Quality of Domain Name Service," *IEEE INFOCOM*, May 2007. (Acceptance rate: 18%)

[C108] H. Yang, Z. Zhu, B. Xiang, W. Jiang, V. Akella, C-N. Chuah, and S. J. B. Yoo, "Design and Experimental Demonstration of Novel Optical Router Controller Capable of Asynchronous, Variable-Length Packet Switching and Contentions Resolution," *IEEE/OSA Optical Fiber Communication Conference*, March, 2007.

[C109] S. Teoh, S. Ranjan, A. Nucci, and C-N. Chuah, "BGP Eye: A new visualization tool for realtime detection and analysis of BGP Anomalies," *ACM International Workshop on Visualization for Computer Security*, November 2006.

[C110] J. Mai, C-N. Chuah, A. Sridharan, H. Zang, and T. Ye, "Is Sampled Data Sufficient for Anomaly Detection?" *ACM Internet Measurement Conference*, October 2006. (Acceptance rate for long paper: 12.3%)

[C111] H. Yang, V. Akella, C-N. Chuah, S. J. B. Yoo, "Design of Novel Optical Router Controller and Arbiter Capable of Asynchronous, Variable Length Packet Switching," *IEEE International Conference on Photonics in Switching*, October 2006.

[C112] H. Yang, V. Akella, C-N. Chuah, S. J. B. Yoo, "Efficient Contention Resolution Algorithms for Recirculation Multicast Based Optical Router Switch Architecture," *IEEE International Conference on Photonics in Switching*, October 2006.

[C113] R. Keralapura, C-N. Chuah, and Y. Fan, "Optimal Strategy for Graceful Network Upgrade," *ACM SIGCOMM Workshop on Internet Network Management*, September 2006.

[C114] A. Chen, B. Khorashadi, C-N. Chuah, D. Ghosal, and M. Zhang, "Smoothing Vehicular Traffic Flow Using Vehicular-Based Ad Hoc Networking and Computing Grid (VGRID)," *IEEE Conference on Intelligent Transportation Systems (ITSC)*, pp. 349-354, September 2006.

[C115] D. Li, C-N. Chuah, G. Cheung, and S. J. Ben Yoo, "Energy-Aware Multi-Source Video Streaming," *IEEE ICME*, July 2006.

[C116] L. Yuan, K. Kant, P. Mohapatra, and C-N. Chuah, "Dox: A Peer-to-Peer Antidote for DNS Cache Poisoning Attacks," *IEEE ICC*, June 2006.

[C117] L. Yuan, J. Mai, Z. Su, H. Chen, C-N. Chuah, and P. Mohapatra, "FIREMAN: A Toolkit for Firewall Modeling and Analysis," *IEEE Symposium on Security and Privacy*, pp. 199-213, May 2006. (Acceptance rate of long paper: 9.2%)

[C118] D. Li, Q. Zhang, C-N. Chuah, and S. J. Ben Yoo, "Multi-Source Multi-Path Video Streaming over Wireless Mesh Networks," *IEEE International Symposium on Circuits and Systems (ISCAS)*, May 2006.

[C119] R. Keralapura, C-N. Chuah, N. Taft, and G. Iannaccone, "Can co-existing overlays inadvertently step on each other?" *Proc. IEEE ICNP*, pp. 201-214, November 2005. (Acceptance rate: 17%)

[C120] C. Dana, D. Li, D. Harrison, and C-N. Chuah, "BASS: BitTorrent Assisted Streaming System for Video-On-Demand," *IEEE International Workshop on Multimedia Signal Processing (MMSP)*, October 2005.

[C121] Y. Chen, C-N. Chuah, and Q. Zhao, "Optimal Sensor Placement for Maximizing Lifetime per Unit Cost," *IEEE Military Communication Conference (MILCOM)*, October 2005.

[C122] Z. Zhong, R. Keralapura, S. Nelakuditi, Y. Yu, J. Wang, C-N. Chuah, and S. Lee, "Avoiding Transient Loops through Interface-Specific Forwarding," *Proc. IFIP/IEEE International Workshop on Quality of Service (IWQoS)*, June 2005. (Acceptance rate 19-21%)

[C123] K. Zhang, S. Teoh, S. Tseng, R. Limprasittipom, C-N. Chuah, K.-L. Ma, and S. F. Wu, "Performing BGP Experiments on a Semi-Realistic Internet Testbed," *Proc. IEEE International Workshop on Security in Distributed Computing Systems (SDCS)*, June 2005.

[C124] H. Yang, V. Akella, C-N. Chuah, and S. J. Yoo, "Scheduling Optical Packets in Wavelength, Time, and Space Domains for All-Optical Packet Switching Routers," *Proc. IEEE International Conference on Communications (ICC)*, June 2005. (Acceptance rate: 29%)

[C125] J. LeBrun, C-N. Chuah, and D. Ghosal, "Knowledge-Based Opportunistic Forwarding in Vehicular Wireless Ad Hoc Networks," *Proc. IEEE Vehicular Technology Conference*, May 2005.

[C126] J. Anda, J. LeBrun, D. Ghosal, C-N. Chuah, and H. M. Zhang, "VGrid: Vehicular Ad Hoc Networking and Computing Grid for Intelligent Traffic Control," *Proc. IEEE Vehicular Technology Conference*, pp. 2905-2909, May 2005.

[C127] Z. Li, P. Mohapatra, and C-N. Chuah, "Virtual Multi-Homing: On the Feasibility of Combining Overlay Routing with BGP Routing," *Proc. IFIP Networking Conference*, May 2005.

[C128] Z. Zhong, S. Nelakuditi, Y. Yu, S. Lee, J. Wang, and C-N. Chuah, "Failure Inferencing based Fast Rerouting for Handling Transient Link and Node Failures," *Proc. IEEE Global Internet*, March 2005.

[C129] D. Li, C-N. Chuah, G. Cheung, and S. J. Yoo, "Proxy-driven rate-distortion optimized video streaming over wireless network using asynchronous clocks," *Proc. IEEE Packet Video Workshop*, December 2004.

[C130] R. Keralapura, N. Taft, C-N. Chuah, and G. Iannaccone, "Can ISPs take the heat from Overlay Networks?" *Proc. ACM Workshop on Hot Topics in Networks (HotNets-III)*, pp. 29-34, November 2004. (Acceptance rate: 18.5%)

[C131] R. Keralapura, N. Taft, G. Iannaccone, C-N. Chuah, "Can ISPs and Overlay Networks form a Synergistic Co-Existence?" *Proc. IEEE/IFIP Distributed Systems: Operations and Management (DSOM)*, November 2004. (Acceptance rate: 22%)

[C132] P. Cheng, X. Liu, and C-N. Chuah, "Energy-aware Node Placement in Wireless Sensor Networks," *Proc. IEEE Globecom*, November 2004. (Acceptance rate: 25-30%)

[C133] A. Zeitoun, C-N. Chuah, S. Bhattacharrya, and C. Diot, "An AS-Level Study of Internet Path Delay Characteristics," *Proc. IEEE Globecom*, November 2004. (Acceptance rate: 25-30%)

[C134] H. C. Chang, H. Du, J. Anda, C-N. Chuah, D. Ghosal, and M. Zhang, "Enabling Energy Demand Response with Vehicular Mesh Networks," *Proc. IEEE/IFIP Intl Conference on Mobile and Wireless Communication Networks (MWCN)*, October 2004.

[C135] D. Li, G. Cheung, C-N. Chuah and S. J. Yoo, "Joint Server/Peer Receiver-Driven Rate-Distortion Optimized Video Streaming Using Asynchronous Clocks," *Proc. IEEE International Conference on Image Processing (ICIP)*, October 2004.

[C136] R. Keralapura, C-N. Chuah, G. Iannaccone, and S. Bhattacharrya, "Service Availability: A New Approach to Characterizing Network Topologies," *Proc. IEEE International Workshop on Quality of Service (IWQoS)*, pp. 232-241, June 2004. (Acceptance rate 19.5%)

[C137] S. Agarwal, C-N. Chuah, S. Bhattacharrya, and C. Diot, "The Impact of BGP Dynamics on Intra-Domain Traffic," *ACM SIGMETRICS Joint Intl Conference on Measurement and Modeling of Computer Systems*, June 2004. (Acceptance rate: 12.4%)

[C138] G. Cheung, C-N. Chuah, and D. Li, "Optimizing Video Streaming Against Transient Failures and Routing Instability," *Proc. IEEE International Conference on Communications (ICC)*, June 2004.

[C139] A. Banerjee, N. Singhal, J. Zhang, D. Ghosal, C-N. Chuah, and B. Mukherjee, "A Time-Path Scheduling Problem (TPSP) for Aggregating Large Data Files from Distributed Databases using an Optical Burst-Switched Network," *Proc. IEEE International Conference on Communications (ICC)*, June 2004.

[C140] S. Agarwal, C-N. Chuah, S. Bhattacharrya, and C. Diot, "The Impact of BGP Dynamics on Router CPU Utilization," *Proc. Passive & Active Measurement (PAM) Workshop.* Also appear in *Springer-Verlag Lecture Notes in Computer Science (LNCS) series* vol. 3015, pp. 278-288, April 2004. (Acceptance rate: 17.5%)

[C141] A. Markopoulou, G. Iannaconne, S. Bhattacharrya, C-N. Chuah, and C. Diot, "Characterization of Failures in an IP Backbone," *Proc. IEEE INFOCOM*, March 2004. (Acceptance rate: 18.4%)

[C142] S. Lee, Y. Yu, S. Nelakuditi, Z-L. Zhang, and C-N. Chuah, "Proactive vs. Reactive Approaches to Failure Resilient Routing," *Proc. IEEE INFOCOM*, March 2004. (Acceptance rate: 18.4%)

[C143] S. Agarwal, C-N. Chuah, and R. H. Katz, "OPCA: Robust Interdomain Policy Routing and Traffic Control," *Proc. IEEE OPENARCH,* pp. 55-64, April 2003.

[C144] G. Iannaccone, C-N. Chuah, R. Mortier, S. Bhattacharrya, and C. Diot, "Analysis of Link Failures in an IP Backbone," *Proc. ACM SIGCOMM Internet Measurement Workshop*, pp. 237-42, November 2002.

[C145] C-N. Chuah and R. H. Katz, "Characterizing Packet Audio Streams from Internet Multimedia Applications," *Proc. IEEE International Conference on Communications (ICC)*, April 2002.

[C146] C-N. Chuah, J. M. Kahn, G. J. Foschini, R. A. Valenzuela, D. Chizhik, and J. Ling, "Capacity Growth of Multi-element Arrays in Indoor and Outdoor Wireless Channels," *Proc. IEEE Wireless Communications and Networking Conference (WCNC)*, September 2000.

[C147] C-N. Chuah, L. Subramanian, R. H. Katz and A. D. Joseph, "QoS Provisioning Using A Clearing House Architecture," *Proc. IEEE/IFIP Intl. Workshop on Quality of Service (IWQoS)*, pp. 115-124, June 2000. (Acceptance rate 25%)

[C148] C-N. Chuah, J. M. Kahn and D. N. Tse, "Capacity of Multi-Antenna Array Systems in Indoor Wireless Environment," *Proc. IEEE Globecom*, vol. 4, pp.1894-9, November 1998.

[C149] C-N. Chuah and R. Yates, "Evaluation of Minimum Power Handoff Algorithm", *Proc. 6th International Symposium in Personal Indoor-outdoor Mobile Radio Communications (PIMRC)*, pp. 814-818, September 1995.

[C150] C-N. Chuah, R. Yates, and D. J. Goodman, "Integrated Dynamic Radio Resource Management," *Proc. IEEE International Vehicular Technology Conference (VTC),* vol. 2, pp. 584-588, July 1995.

Invited Papers

[C151] L. Gong, L. Huang, P. Tune, J. Han, C-N. Chuah, M. Roughan, and J. Xu, "ForestStream: Accurate Measurement of Cascades in Online Social Networks," *IEEE ICCCN*, July/Aug 2017.

[C152] M. Malboubi, Y. Gong, W. Xiong, C-N. Chuah, and P. Sharma, "Software defined Network Inference with Passive/active Evolutionary-optimal pRobing (SNIPER)," *IEEE ICCCN*, August 2015. (invited)

[C153] C. Buckley, P. H. Pathak, A. Das, C-N. Chuah, and P. Mohapatra, "AnonAD: Privacy-aware Micro-targeted Mobile Advertisement without Proxies," ICCCN, August 2015 (Invited)

[C154] B. Khorashadi, A. Chen, C-N. Chuah, D. Ghosal, and M. Zhang, "Impact of Transmission Power on TCP Performance in Vehicular Ad Hoc Networks," *the 4th Annual Conference on Wireless On Demand Network Systems and Services,* pp. 65-71, January 2007. (Invited)

[C155] D. Li, Q. Zhang, C-N. Chuah, and S. J. Ben Yoo, "Error-Resilient Concurrent Video Streaming over Wireless Mesh Networks," *Packet Video Workshop*, April 2006 (Invited).

[C156] B. Reynolds, D. Ghosal, C-N. Chuah, and S. F. Wu, "Vulnerability Analysis and A Security Architecture for IP Telephony," *Proc. IEEE GlobeCom Workshop on VoIP Security – Challenges and Solutions*, November 2004 (Invited).

[C157] L. Yuan, C. Gui, C-N. Chuah, and P. Mohapatra, "Applications and Design of Heterogeneous and/or Broadband Sensor Networks," *Proc. IEEE Workshop on Broadband Advanced Sensor Networks (BASENETS)*, October 2004 (Invited).

[C158] C-N. Chuah, S. Bhattacharrya, G. Iannaccone, and C. Diot, "Analysis of Link Failures and Their Impact on Traffic," *Proc. IEEE Computer Communication Workshop (CCW*) – Internet Traffic and Topology Session, October 2002 (Invited).

[C159] D. Tse, C-N. Chuah and J. M. Kahn, "Capacity Scaling in Dual Antenna Array Wireless Systems," *Proc. 34th Asilomar Conf. on Signals, Systems and Computers*, October 2000 (Invited).

[C160] D. Tse, C-N. Chuah and J. M. Kahn, "Capacity Scaling in Dual Antenna Array Wireless Systems," *Proc. IEEE Wireless Communications & Networking Conf. (WCNC)*, September 2000 (Invited).

Poster/Demo & Abstracts

[C161] L. Mo, S. M. Joshi, S. gupta, V. J. Pae, I. Uche, H. R. Shaik, C-N. Chuah, P. Strong, U. Srivasta, I. Ebong, H. Hedriana, E. Waetjen, "Machine Learning-based Pregnancy and Pregnancy Trimesters Prediction Using Electrocardiogram," *Society for Maternal-Fetal Medicine (SMFM) Pregnancy Meeting*, Jan 27- Feb 1, 2025.

[C162] C. Gupta, A. Poudel, J. Y. Wang, R. Hagerman, G. Espinal, J. Famula, A. Schneider, F. Tassone, S. Rivera, C-N. Chuah, and D. Hessl, "Use of Machine Learning to Identify Optimal Markers of Risk for FXTAS: A Preliminary Investigation," submitted to the *19th NFXF International Fagile X Conference*

[C163] R. Scalco, L. Cerny-Oliveira, Z. Lai, D. Harvey L. Abujamil, C. DeCarli, L-W. Jin, C-N. Chuah, and B. N. Dugger, "Machine learning analysis of Amyloid-b pathologies and their correlations in 131 cases from an Alzheimer's Disease Research Center," AANP, 100th Annual Meeting of the American Association of Neuropathologists, June 2024.

[C164] L. Cerny Oliveira, J. Chauhan, Z. Lai, S. Cheung, A. Villablanca, L-W. Jin, C. DeCarli, C-N Chuah, B-N Dugger, "Automating Microinfarct Screening in Hematoxylin and Eosin-stained Human Brain Tissues: A Machine Learning Approach," AANP, 100th Annual Meeting of the American Association of Neuropathologists, June 2024.

[C165] L. Cerny Oliveira, J. Chauhan, A. Chaudhari, Z. Lai, S. Cheung, A. Villablanca, L-W. Jin, C. DeCarli, C-N Chuah, B-N Dugger, "Automating Microinfarct Screening in Hematoxylin and Eosin-stained Human Brain Tissues: A Machine Learning Approach," April Krueger Annual Women's Health, May 2024.

[C166] L. Cerny Oliveira, J. Chauhan, Z. Lai, S. Cheung, A. Villablanca, L-W. Jin, C. DeCarli, C-N Chuah, B-N Dugger, "Automating Microinfarct Screening in Hematoxylin and Eosin-stained Human Brain Tissues: A Machine Learning Approach," Alzheimer's Association Neuroscience Next, April 2024.

[C167] L. Mo, S. Rai Sharma, N. Sandhu, H. Hedriana, Z. Chithiwala, A. Curtin, and C-N. Chuah, "Social Determinants of Health Improves Prediction for Postpartum Readmissions Due to Preeclampsia" *Society of Maternal Fetal Medicine 2024 Pregnancy Meeting,* National Harbor, MD, February 2024.

[C168] Z. Lai, L. C. Oliveira, D. Harvey, K. Nzenkue, L.-W. Jin, C. DeCarli, C-N. Chuah, and B. N. Dugger, "Generalizability of Deep Learning Frameworks for Amyloid Beta Deposit Assessment, Evaluation of Pre-analytic Variables," *American Association of Neuropathologists (AANP) Annual Meeting*, June

[C169] Z. Lai, P. Vadlaputi, D. Tancredi, M. Garg, R. Koppel, M. Goodman, M, W. Hogan, N. Cresalia, S. Juergensen, E. Manalo, S. Lakshminrusimha, C. Chuah, and H. Siefkes, "Machine Learning Algorithm Combining Pulse Oximetry Features for Critical Congenital Heart Disease Screening," *Pediatric Academic Society*, May 2021.

[C170] P. Vadlaputi, Z. Lai, M. Garg, R. Koppel, M. Goodman, M, W. Hogan, N. Cresalia, S. Juergensen, E. Manalo, C. Chuah, S. Lakshminrusimha, and H. Siefkes, "Simple Automation Reduces False Positive Rate in Perfusion Index Critical Congenital Heart Disease (CCHD) Screening," *Eastern Society for Pediatric Research Annual Meeting*, March 2021.

[C171] C. Wu, D. Liaqat, S. Cheung, S. Ozonoff, and C-N. Chuah, "Machine-Learning Based Autism Diagnosis Using Gaze Fixations on Natural Images," *International Society for Autism Research Annual Meeting-Innovative Technologies Demonstration Session*, May 2020.

[C172] D. Liaqat, C. Wu, S. Cheung, S. Ozonoff, and C-N. Chuah, "Detection of Autism Related Behaviors from Video of Infants Using Machine Learning," *International Society for Autism Research Annual Meeting-Innovative Technologies Demonstration Session*, May 2020.

[C173] G. Rehm, I. Cortes Puch, J. Nguyen, J. Y. Adams, N. Anderson, and C-N. Chuah, "A Machine Learning Classifier for Early Detection of ARDS using Raw Ventilator Waveform," *UC Davis Lung Day*, June 2019. **(Philip Thai Memorial Award for the Best Clinical Abstract)**

[C174] J. Y. Adams, G. B. Rehm, I. Cortes-Puch, B. T. Kuhn, J. Nguyen, N. R. Anderson, C-N. Chuah, "A Machine-Learning Classifier for Early Detection of ARDS using Raw Ventilator Waveform Data," *American Thoracic Society International Conference (ATS)*, 2019.

[C175] M. R. Rahman and C. N. Chuah, "Can Sampling Preserve Application Adoption Process over OSN Graphs?" *International School and Conference on Network Science (NetSci*), June 2014.

[C176] B. Liu, D. Ghosal, Y. Dong, C-N. Chuah, and M. Zhang, "CarbonRecorder: A Mobile-Social Vehicular Carbon Emission Tracking Application Suite," *IEEE Wireless Vehicular Communications Demo Track*. September 2011.

[C177] J. LeBrun and C-N. Chuah, "Feasibility Study of Bluetooth-based Content Distribution Kiosks on Public Transit Systems," *ACM Workshop on Decentralized Resource Sharing in Mobile Computing and Networking (MobiShare)*, in conjunction with *ACM Mobicom*, September 2006. (Short paper)

[C178] D. Gupta, J. LeBrun, P. Mohapatra, and C-N. Chuah, "A WDS-Based Layer-2 Routing Scheme for Wireless Mesh Networks," *ACM Workshop on Wireless Testbeds, Experimental Evaluation, and Characterization (WiNTECH)*, in conjunction with *ACM MobiCom*, September 2006. (Poster paper)

[C179] C-N. Chuah, L. Subramanian, R. H. Katz, and A. D. Joseph, "Resource Provisioning Using a Clearing House Architecture," *Poster Session, ACM SIGCOMM*, September 2000.

PATENTS

[1] A. Nucci, S. Teoh, and C-N. Chuah, "Method for Real-Time Visualization of BGP Analysis and Trouble-Shooting," US Patent 7945658, issued on May 17, 2011.

[2] S. Raza, C-N. Chuah, G. Huang, S. Seetharaman, and J. Singh, "Method for Routing-Assisted Traffic Monitoring," US Patent 8817629, issued on August 26, 2014.

[3] H. Zang, S. Gatmir-Motahari, C-N. Chuah, and H. Liu, "Data Fraud Detection via Device Type Identification," US Patent 9107076, issued on August 11, 2015.

[4] M. Malboubi, C-N. Chuah, and P. Sharma, "Solving Under-Determined Problems for Networks," provisional patent filed April 3, 2012 (#13/438,493).

[5] E. Ioannidis, H. Liu, S. Bhagat, C-N. Chuah, "Network Inference using Graph Priors," patent filed Aug 14 2014 (#14/459886).

[6] H. Siefkes, S. Lakshminrusimha, C-N. Chuah, and Zhenfeng Lai, "Systems and Methods for Classifying Critical Heart Defects" patent filed May 6, 2021.

TUTORIAL/ SELECTED TALKS (NOT A COMPLETE LIST)

[1] "Experimental Data Science in Large-Scale Networks and Smart Health Systems," Distinguished Lecture at Institute for Broadband Research and Innovation (IBRI), Soochow University, China, Oct 19, 2022.

[2] "Experimental Data Science in Networks and Smart Health Systems," 2022 ADVANCED Award Symposium – Inclusivity, Equity, and Ethics in Research and Data Science, UC Davis, May 21, 2022

[3] "Early Detection of ASD Risk Using Machine Learning Approaches," Oregon Health & Science University (OHSU) Autism Seminar Series, April 26, 2021.

[4] "Lessons & Opportunities in Large Scale Networks and Smart Health Applications," San Francisco Bay ACM Chapter (10,712 members), monthly seminar Wed April 21, 2021 (130 attendees, Streaming to YouTube SFBay ACM Channel).

[5] "Smart Transportation with Connected Vehicles," Keynote speech, the 2nd IEEE INFOCOM Workshop on Smart Cities and Urban Computing, April 11, 2016.

[6] "Network Inference with Online Learning in Software Defined Networking," AT&T SDN Forum, July 2015.

[7] "Software Defined Networking (SDN) based Measurements and Inference under Hard Resource Constraints," Lawrence Livermore Berkeley Lab, July 2015.

[8] "Measuring and Modeling User Interactions in Online Social Network-based Applications," UC Berkeley CITRIS Research Exchange Seminar, February 2013.

[9] "Evoluation of User Activity Graphs (UAGs) in OSN-based Applications," invited talk at GOOGLE, CA, October, 2012.

[10] "Programmable Network-wide Measurements and Synergistic Networking," Invited talk at Lawrence Livermore National lab, August 2010.

[11] "Peeking into Facebook Applications: Activity Graphs & Fake Profiles," Guest Seminar at Princeton University, July 2010.

[12] "Impact of Sampling on Anomaly Detection," *DIMACS/DyDAn Workshop on Internet Tomography*, May 2008.

[13] "Overlay Networks: Indirection and Virtualization," *DIMACS Tutorial on Algorithms for Next Generation Networks*, August 2007.

[14] "Vehicular Ad Hoc Networks and Opportunistic Communications," Invited talk at *Hewlett Packard Labs-Tokyo, Japan*, September 2007.

[15] "Measuring and Validating the Global Internet – System Behavior and End-to-End Properties," (Invited) *Google, Inc.*, Aug 2006.

[16] "Validating System Behavior of Large-Scale Networked Computers," *NSF Workshop on Theory of Networked Computation*, March 2006.

[17] "Understanding Network Dynamics: The Race is On!" (Invited) *Computer Science Colloquium*, Princeton University, NJ, Aug. 2005.

[18] "Internet Routing Dynamics and Their Implications", (Invited) *UC Berkeley Networking, Communications, and DSP Seminar*, November 2004.

[19] "Performing BGP Experiments on a Semi-Realistic Internet Environment," with K. Zhang, S. Teoh, S. Tseng, K. Ma and F. Wu, North American Network Operators' Group (*NANOG)'32 Meeting*, Reston, VA, October 2004.

[20] "Impact of BGP Dynamics on Intra-Domain Traffic Patterns in the Sprint IP Backbone," with S. Agarwal, S. Bhattacharrya, and C. Diot *NANOG27 Meeting*, Phoenix, AZ, Feb 2003.

[21] "Analysis of Link Failures and Their Impact on Traffic," (Invited) *IEEE Computer Communications Workshop*, Sante Fe, NM, October 13-16, 2002.

[22] "Design Principles of a Tier-1 IP Backbone: Are there routing problems in the Internet," (Invited) *Internet Routing and Topology*, part of *IPAM Workshop on Large-Scale Communication Networks: Topology, Routing, Traffic and Control*, March 18-22, 2002.

PROFESSIONAL ACTIVITIES

- **Professional societies:**
  - Fellow of IEEE
  - Distinguished Scientist of ACM
  - Member of Tau Beta Pi and Eta Kappa Nu
- **IEEE Communication Society:**
  - IEEE Fellow Evaluation Committee (2015-18)
- **Associate Editor**
  - IEEE Internet of Things Journal (2021-)
  - IEEE Transactions on Mobile Computing (2016-2020)
  - IEEE/ACM Transactions on Networking (2008-2013)
- **Conference Executive Committee:**
  - Steering Committee
    - ACM Internet Measurement Conference (2009-2014)
    - IEEE International Workshop on Quality of Service (2008-2010)
  - Chair of Technical Program Committee
    - Co-Chair, IEEE IWQoS 2007
    - Co-Chair, ACM VANET 2004 (in conjunction with ACM MobiCom 2004)
    - Vice-Chair, IEEE Globecom 2006 (consisting of 13 Technical Symposia)
    - Co-Chair of IEEE Globecom General Symposium 2006
  - Publicity Chair, ACM Second Workshop on Vehicular Ad Hoc Networks (VANET) 2005, in conjunction with ACM MobiCom 2005
  - Mentorship Co-Chair, 4th Networking Networking (N2) Women Workshop, co-located with ACM SIGCOMM 2014.
  - Student Travel Grant Chair
    - ACM Internet Measurement Conference (2009-13)
    - NSF/INFOCOM Student Travel Grants 2006
- **Conference Technical Program Committee:**
  - IEEE INFOCOM: every year since 2005

- IEEE IWQoS: 2004-2007, 2009
- IEEE SECON: 2005, 2006
- IEEE ICC: 2005
- IEEE ICON/COQODS 2004
- IEEE/IFIP: MWCN 2004
- IEEE ICDCS: 2013
- ACM Symposium on SDN Research (SOSR): 2017
- ACM SIGCOMM: 2007, 2009; Student Travel Grant (2009), Poster Session (2005, 2006)
- ACM MOBICOM: 2005
- ACM Internet Measurement Conference (IMC): 2008, 2012, 2013
- ACM CoNext: 2011, 2014
- ACM Workshop on Challenged Networks (CHANTS): 2006, 2007
- ACM Workshop on Vehicular Ad Hoc Networks (VANET): 2004, 2005, 2006
- ACM Workshop on Online Social Networks (WOSN): 2009

- **Conference Session Chair:** IEEE INFOCOM, IEEE IWQoS, IEEE ICC, ACM MobiCom, ACM CHANTS, ACM VANET, UC Davis CITRIS Workshop (Sensors, Sensor Networks, and Sensor Applications, 2004)
- **Reviewer:**
  - Journals: IEEE/ACM Transactions on Networking, IEEE Journal on Selected Areas in Communications, IEEE Transactions on Wireless Communications, IEEE Transactions on Signal Processing, IEEE Transactions on Vehicular Technology, IEEE Network, ACM Transactions on Internet Technology, ACM Transactions on Sensor Networks, Elsevier Computer Networks Journal, Wireless Networks
  - Conferences/Workshops: IEEE INFOCOM, IEEE ICC, IEEE Global Internet, ACM Internet Measurement Workshop
  - Book review: Design and Management of Large-Scale IP Networks
- **Proposal Reviewer:**
  - NSF panels, UC MICRO & Discovery programs

TEACHING

- Winter 2003-present: Developing and teaching graduate and undergraduate classes in the Department of Electrical & Computer Engineering, University of California, Davis, CA.
  - *EEC 1 Introduction to Electrical & Computer Engineering*
  - *EEC10 Introduction to Analog and Digital Systems*
  - *EEC 70 Computer Structures and Assembly Language*: Low-division, core undergraduate course
  - *EEC 173A Computer Networks*: Junior/senior-level technical elective
  - *EEC 173B Design projects in Communication Network*: Senior-level project elective in the area of wireless/mobile computing
  - *EEC193AB Senior Design Project in Data Science and AI-Systems*
  - *EEC 273 Computer Networks:* Graduate-level course on computer networks
  - *EEC 274 Internet Measurements, Routing, and Traffic Engineering:* Graduate-level seminar on new topics such as network measurements, and disruption tolerant networking.
- Spring 1998: Teaching Assistant in the Department of Electrical Engineering & Computer Sciences, University of California, Berkeley, CA

- Senior-level class *EE121: Introduction to Digital Communication*

- March 1996: Voluntary Instructor**,** Science and Mathematics Conference*,* Mills College, Oakland, CA
  - *Expanding Your Horizons* outreach program to introduce science and mathematics to elementary school and junior high students
- 1994-05: Tutor, Mathematics and Science Center, Rutgers University, Piscataway, NJ

COMMITTEE SERVICE AT UC DAVIS (LAST UPDATED: 2021)

- UC Davis Campus:
  - UCD Health Data Oversight Committee (2019-present)
  - Data Science Steering Committee (2019-2021)
  - UCD Chancellor Fellow Evaluation Committee (2015-18, 2020)
  - ADVANCED Mentorship & Networking Initiative Committee (2012-18), Launch Committees (2014-16), ADVANCED Scholar Award Selection Committee
  - Early Career Faculty Award (2018)
  - ECE representative in Academic Senate (2011-13)
  - Steering Committee, Center for Future Information Technology (2007-present)
  - Hellman Fellowship Review Panel (2008, 09)
  - Panelist, campus-wide New Faculty Workshop – "Recently Tenured Faculty Panel" (2006)
  - UCD Graduate Council Support and Welfare Committee (2005-07)
- College of Engineering (CoE)
  - CoE Faculty Executive Committee (2017-20)
  - Faculty Advisory Group (2016-17)
  - Faculty Personnel Committee (2012-15): reviewing faculty merit advancements within CoE
  - Engineering Communication Design Committee (2013-14)
  - 2025 Engineering Committee (2011-12)
  - Graduate Study Committee (2008-10)
  - Sandia National Lab Fellowship Ranking Committee (2007, 2009)
  - Panelist, CoE New Faculty Orientation Workshop (2006)
- Electrical & Computer Engineering Graduate Program (ECEGP)
  - Designed Program Chair (2008-10)
  - Chair of Executive Committee (2008-10)
  - PhD Preliminary Oral Exam (2005, 2007, 2012, 2014)
  - Member of Executive Committee (2005-07)
  - Alternate Graduate Adviser
- Graduate Group of Computer Science (GGCS)
  - Executive Committee (2004-present)
  - Chair's Nomination Committee (2006-07)
- Electrical & Computer Engineering (ECE) Department
  - Executive Committee (2019-20, 2020-21)
  - Committee on Web, IT, and Social Media, Chair (2018-20)
  - Personnel Committee (2010-11, 2017-18, 2020-21)
  - Faculty Executive Committee (2017-20)
  - Chair of Faculty Search Committee, Faculty Search Coordinator (2015-16)
  - Vice Chair of Graduate Studies (2008-10)
  - Chair's Search Committee (2006-07, 2012-14)
  - Faculty Search Committee: Member (2003-04) & Chair (2014-16. 2020-21)
  - Chair of Graduate Study Committee (2008-10)

- Graduate Study Committee (2002-04, 2013-14)
- GAANN Project Director (2006-2011)
- Outreach Committee (2008-10)
- Undergraduate Program Committee (2005-06)
- Industrial Affiliates Committee (2004-05)
- Sub-committee to review nomination for the Anil Jain Memorial Prize (2001/02)

OUTREACH ACTIVITIES

2020- Senior co-mentor for NIH KL2 Mentored Career Development Program
- Mentored a female junior faculty in School of Medicine to pursue research related to AI-in-health

2019-23 Faculty mentor for UC Davis Avenue E program
- Provide academic guidance to help first generation/under-represented students successfully transition from local community colleges to UC Davis campus and explore their technical interests and career paths

2012-18 Member of Mentorship & Networking Initiative Committee for NSF-funded ADVANCE program committed to recruiting, retaining, and supporting women and minority faculty in STEM
- Development of pilot LAUNCH mentoring program for new faculty as they begin their careers at UC Davis
- Development of the ADVANCE Scholar Award program and lecture series to highlight and celebrate contributions women STEM faculty at UC Davis have made to their fields through outstanding scholarship and mentorship
- Development towards UC Davis Institutional membership with the National Center for Faculty Development and Diversity (NCFDD) which provided resources to all academic senate and academic federation faculty, post-docs and graduate students at UC Davis.

2018 Panelist for Diversity Round Table, UC Berkeley WICSE 40th Anniversary
- Discussion on what has worked and what hasn't to include more women in Tech

2007 Panelist, Sprint's Research Retreat

2006-07 Nominated to and completed UC Davis Leadership Program

2006 & 04 Faculty Panelist, Society of Women Engineers - Little Sister's Day

2005 Panelist, IEEE INFOCOM Student Workshop 2005

2003-07 Faculty Mentor, Engineering Undergraduate Research Program, U. C. Davis

1996-97 Co-president, WICSE – Women in Computer Science & Electrical Engineering, U. C. Berkeley

1995-96 Secretary, WICSE – Women in Computer Science & Electrical Engineering, U. C. Berkeley

1994-95 Secretary, Eta Kappa Nu, Rutgers University

1993-94 Major representative, Society of Women Engineers (SWE), Rutgers University
SWE Certificate of Outstanding Contribution, Rutgers chapter of SWE, Spring 1994.

1994-05 Tau Beta Pi, Rutgers University (Co-Author of "Hitchhiker's Guide to Unix and Internet")

POSTGRADUATE SCHOLAR MENTORSHIP/SPONSORSHIP

- Soshant Bali (2009-10), first appointment: AT&T Labs, NJ
- Jinyoung Han (2014-17), first appointment: Assistant Professor, Hanyang University, Korea
- Debraj Basu (2019-2021), first appointment: Data Scientist, Dascena
- Chao Wang (2020-2021), first appointment: Assistant Professor, Southern University of Science and Technology, China

- Syed Hafiz (2021-2023), first appointment: Staff Security Research Engineer, LG Silicon Valley Lab, CA
- Joohi Chauhan (2022-2023), first appointment: Assistant Professor, Motilal Nehru National Institute of Technology (MNNIT) Allahabad, India
- Xiaoguang (Apollo) Zhu (2024-present)

GRADUATE STUDENT SUPERVISION

- **Completed Doctoral Students**
    1. Ram Keralapura (2007), *Characterizing Internet Routing Dynamics for Enhanced Network Management,* first appointment at Narus, Inc., CA.
    2. Danjue Li (2007), *Hybrid Infrastructure/P2P Approach to Optimize Performance of Multimedia Streaming over Heterogeneous Networks* (co-advised with Prof. Yoo), first appointment at Cisco, CA
    3. Jason LeBrun (2008), *Opportunistic Networking: Measurement and Implementation*, first appointment at Sentilla, CA.
    4. Lihua Yuan (2008), *Towards Network Verification and Introspection* (co-supervised with Prof. Mohapatra), first appointment at Microsoft, WA.
    5. Jianning Mai (2008), *Sampling Network Traffic for Anomaly Detection*, first appointment at Park, Vaughan & Fleming LLP, CA.
    6. Behrooz Khorashadi (2009), *Enabling Traffic Control and Data Dissemination Applications with VGrid – A Vehicular Ad Hoc Distributed Computing Framework* (co-advised with Prof. D. Ghosal and Prof. M. Zhang), first appointment at Qualcomm, Inc., CA
    7. (Leo) Xin Liu (2010), *Multimedia Transport on Cooperative Multi-homed Wireless Networks,* first appointment at Cisco, CA.
    8. Haiping Liu (2010), *Efficient Resource Allocation and Network Design in Heterogeneous Wireless Networks* (co-supervised w/ Prof. Liu and Prof. Ghosal)*,* first appointment at China Mobile, China.
    9. Dhruv Gupta (2010), *Managing 802.11s Wireless Mesh Networks: A Measurement-based Approach* (co-supervised w/ Prof. Mohapatra), first appointment at AT&T, CA.
    10. Saqib Raza (2010), *Synergistic Network Operations,* first appointment at Cisco, CA
    11. Bojin Liu (2011), *Next Generation Vehicular Traffic Management Enabled by Vehicular Ad Hoc Networks and Cellular Mobile Devices* (co-supervised w/ Prof. Ghosal and Prof. Zhang), first appointment at Qualcomm, Inc. CA
    12. Guanyao Huang (2012), *Scalable and Flexible Network-Wide Traffic Measurement*, first appointment at Cisco Systems, CA
    13. Atif Nazir (2012), *Measuring and Modeling User Activities on Online Social Network-based Applications,* first appointment at General Workings, Inc., CA
    14. Faisal Khan (2012), *Programmable and Closed-Loop Traffic Measurements for Better Accountability and Security in Future Networks* (co-supervised w/ Prof. Ghiasi), first appointment at Altera Corp., CA
    15. Han Liu (2014), *Measuring and Modeling the Cascades/Diffusions through Online Social Networks,* first appointment at Hewlett Packard, CA.
    16. (George) Chao-Chi Cheng (2014), *Practical Management as a Service (MaaS) Substrate for Data Center Networks* (co-supervised w/ Prof. Mohapatra), first appointment at Microsoft, WA
    17. Mohammad Rezaur Rahman (2015, co-supervised by Prof. Wu), *Content and Cascade Identification via Online Social Dynamics*, first appointment at Cisco, CA

18. Mehdi Malboubi (2015), *Software Defined Network Measurement and Inference under Hard Resource Constraints,* first appointment at AT&T, CA
19. Arun Raghuramu (2017), *In-Network Security Analytics and Compliance Monitoring,* first appointment at Forescout, CA
20. Mani Amoozadeh (2018), *Towards Robust and Secure Collaborative Driving and Interactive Traffic Intersection,* first appointment at RedPineSignals, CA
21. Aveek Das (2018, co-supervised by Prof. Mohapatra), *Context-aware Information Mining for Wireless Networks,* first appointment at Forescout, CA
22. Chang Liu (2019), *Network Monitoring and Security Enhancement in Software-Defined Networking,* first appointment at Google, CA
23. Gregory Rehm (2021), *A Computational System for Detecting the Acute Respiratory Distress Syndrome Using Physiologic Waveform Data from Mechanical Ventilators,* first appointment at Resmed, Inc., CA
24. Ali Khodadadi (2022), *Learning-based Vehicle Diagnostic and Prognostic System Utilizing Natural Language Processing*, currently at Cruise.
25. Jeff Zhengfeng Lai (2023), *Robust Machine Learning Directed Toward Pathology Imaging Applications with Limited Labeled Data*, first appointment at Apple, CA

    (2024 Anil Jain Memorial Award for the best dissertation in ECE, 2024 College of Engineering Excellence in Graduate Student Research Award)
26. Ammar Haydari (2024), *Towards Efficient and Secure Intelligent Transportation Services: AI-driven Traffic Light Controller and Privacy-Preserving Mobility Data Generation*, first appointment at SandboxAQ.

- **Current Doctoral Students**
  - Dongjie Chen, Chitrabhanu Gupta, Kartik Patwari, Luca Cerny-Oliveira, and Shivam Rai Sharma
- **Completed MS Students (Plan I - Thesis Option)**
  1. Christopher Carde (2004), *A Framework for the Rapid Design and Implementation of Distributed CAN Control Networks for Prototype Vehicles*, first appointment: Daimler-Chrysler Research and Technology North America (RTNA), Inc., Palo Alto, CA
  2. Peng Cheng (2004), *Energy Conservation in Wireless Sensor Networks*, first appointment: Cisco Systems, CA.
  3. Howard Chang (2004), *Architecture and Routing Design for Enabling Energy Demand Response with Vehicular Mesh Networks*, first appointment: Brocade, CA
  4. Chris Dana (2005), *BitTorrent Assisted Streaming System for Video-On-Demand Services,* first appointment: Boeing, CA.
  5. Andrew Chen (2007), *Vehicular Network Simulation Platform for Highway Traffic Management and Wireless Applications,* first appointment: Intel Folsom, CA
  6. Ferhat Dikbiyik (2009), *Scalable Interface-Split Routing*, first appointment: Sakarya Univ. Turkey
  7. Collin Smith (2009), *Doppler Spread Analysis and Dynamic Power Control for Vehicular Wireless Networks*, first appointment: Sierra Nevada Corporation, CA.
  8. Brian Estrada (2010), *Longitudinal Study of Online Social Games and Applications*
  9. Ali Sharokhi (2011), *Measurement and Development of Online Social Network-based Applications,* first appointment; SmartBites, CA
  10. Kristen Kennedy (2013), *Quantifying the Effects of Permission Removal from Android Applications*

11. Liyuan Wang (2013), *Adaptive Network Traffic Estimation using OpenFlow: An Implementation on Mininet,* first appointment: IBM, CA
12. Kashyap Thimmaraju (Mar 2015), *Performance Evaluation of a Paravirtualized Smartphone,* now a PhD student, TU Berlin
13. Theo Pan (2015), *Interest Meets Pinterest: Identifying Important User Roles in Content Propagation,* first appointment: Microsoft, WA
14. Ali Emara (Dec 2016), *Inferring Mobile Applications Usage among Different Demographics,* first appointment: Adobe
15. Gregory Rehm (Dec 2017), *An End-to-End Platform for Creating an Ensemble Asynchrony Detection Algorithm for Mechanically Ventilated Patients*, currently PhD student at UC Davis
16. Zachary Harris (Sep 2019), *A Deep Learning Model for Predicting Patient Outcomes in the ICU*, first appointment: Apple.
17. Devashish Kashikar (Dec 2019), *Diagnosing Autism Spectrum Disorder with Machine Learning*.
18. Samir Townsley (June 2020), *Using Machine Learning to Examine Venous-Thromboembolism Risk in Cancer Patients*
19. Fatemeh Radaei (Dec 2020), *Prediction of Fluid-Responsiveness in Patients at Intensive Care Unit Using Machine Learning Modeling*, first appointment: Facebook.
20. Vishal Ilangovan Bhuvaneswari (Dec 2021), *Predicting Surgical Site Infections Using Machine Learning Approaches with Further Investigation of Bias*, first appointment: Paypal
21. Rahul Krishnamoorthy (Dec 2021), *Deep Learning Methodologies to Predict Fluid Responsiveness in Hemodynamically Unstable Patients*

- **Completed MS Students (Plan II - Project Option)**

22. Jonathan Wagoner (2008), *A Survey and Characterization of Energy Efficiency in Heterogeneous Wireless Network Interfaces,* first appointment: Emphase Energy, CA
23. Yuanbo Zhu (June 2010), *Graceful Network Operation and Management*, first appointment: Cisco, CA
24. Shu Ming Peng (Mar 2015), *Intelligent Traffic Sampling and Inference: An Implementation on Mininet,* first appointment: Verizon, CA
25. Yiwei (Sally) Sun (Mar 2015), *Data Driven Prediction of Cascades on Online Social Networks,* first appointment: Cisco, CA
26. Lingxuan Li (June 2015), *Adaptive Network Traffic Estimation in Data Centers: A Software Defined Networking Approach*
27. Zejun Huang (Dec 2015), *Analyzing Social Interactions and Relationships in OSN-based Gifting Applications,* first appointment: Adobe
28. Jingyu Zhang (March 2016), *Uncovering Synergistic Business Relationship through Online User Reviews,* first appointment: Amazon
29. Santhosh Chandrasekar (June 2016), *Dynamically Load Balanced SDN based Routing*, first appointment: Apple
30. Janice Fredrick (March 2017), *Community Detection Applied to Brand Prediction*
31. Aditi Garg (March 2017), *Predicting User Engagement on University Facebook Pages*, first appointment: Trulia
32. Devika Joshi (March 2017), *Characterizing user engagement on social media during political campaigns*, first appointment: Moodys Analytics

33. Chaitrali Joshi (June 2017), *Software defined Network Inference with Genetic Algorithm*, first appointment: Intel
34. Zhongyi Lin (Dec 2017), *Using IoT Device to Actuate Traffic Signal Prioritization for Mass Transit,* currently PhD student at UC Davis
35. Yue Xia (June 2018), *Anomaly Detection of Mechanical Ventilator Waveform Data Based on Dynamic Time Warping*.
36. Deepika Chandrasekaran (Sep 2018), *Clustering Households by Their Purchasing Behavior on Retail Data*
37. Kevin Manuel (Oct 2018), *Retail Store Assortment Optimization using Graph Techniques*, first appointment: Zillow
38. Tina Mashhour (Sep 2018), *Network Security with CNN & GANs,* first appointment: General Electric (GE) Health Care
39. Adithya Premkumar (June 2019), *Characterizing the Architecture and Design of Software Stacks for Edge Computing Platforms*, first appointment: Intel
40. Ishita Sharma (June 2019), *Identification of Fraudulent Alt Coins in Crypto-Currency Market,* first appointment: Microsoft
41. Bryan Ching (June 2019), *Simulated Security Attacks on Traffic Signal Controllers in Intelligent Intersections using VENTOS,* first appointment: Defense Contractor
42. Huian Wang (Dec 2019), *Improving Congestion Control with Reinforcement Learning and Online Learning,* first appointment: Microsoft
43. Kavish Doshi (June 2020), *Data Analytic Pipeline for Disease Screening or Detection*
44. Bhargav Sundararajan (June 2020), *Investigating Pre-Training Techniques for Deep-Learning Based ARDS Detection*
45. Yuqi Yang (March 2021), *Omni System Hardware Simulation: a TCP connection based software method,* first appointment: Facebook
46. Muhammad Sarmad Saeed (Dec 2021), *Robust Deep Reinforcement Learning based TSCs using Adversarial Training,* first appointment: Cepton, Inc.
47. Prashanth R. Duggirala (Dec 2021), *Generating Multimodal Synthetic Data,* first appointment: Leoforce
48. Yu-Hsuan Tseng (June 2022), *Random Forest based ARDS Detection and Prognosis*
49. Warren Wnuck (Dec 2022), *Private Information Retrieval with Aggregate Queries*
50. Brijesh Vora, Brijesh Vora (June 2023), *Establishing a Benchmark for Adversarial Robustness of Compressed Deep Learning Models after Pruning*

- **Current Masters Students**
    - Shantanu Joshi, Ajinkya Chauduri, Omri Steinberg-Tatman, Yui Ishihara, and Smit Modi
- **Other Student Guidance Committees**
    - Served on 50 other PhD dissertation committees, 28 other M.S. thesis/exam committees, and 119 PhD oral qualifying examination committees for students in Electrical & Computer Engineering, Computer Science, Civil & Environmental Engineering, Mechanical & Aeronautical Engineering, and Applied Math Graduate Programs

OTHER ADVISEES

- **UC Davis Undergraduate Research or EEC199 Special Study**

- Oliver Shen, Fall 2024-
- Dhruv Sharma and Kyle Luo, 2023-
- Ryan Swift, Fall 2023-Spring 2024
- Felicia Feng and Pranav Kode, Fall 2023
- Hongtao Zhong, Winter/Spring 2023
- Manqi Kuang, Avenue-E mentoring program, 2022-23
- Zuoheng Li, Summer 2022-Spring 2023
- Matias Smith and Yiqing Xiao, Spring/Summer 2022
- Wenbo Geng, Spring/Summer/Fall 2021
- Jessica Wu, Fall 2021
- Samuel Demissie & Abraham Hadaf, Avenue E Vertically Integrated Project (VIP) Program, 2020-21
- Thao Tran, OEOES Summer Research, 2020
- Zhengfeng Lai, Runlin Kuo and Wenda Xu, *Automated Grey and White Matter Separation in A-beta Stained Human Brain Tissue Slides,* Summer 2019-Spring 2020
- Xin Luigi Chen, *Intelligent Clinical Decision Support Systems for Mechanical Ventilation Management*, Fall 2019
- Minh Truong, *Perception Tasks for Autonomous Driving*, Winter 2019
- Adam Jones, *Lane-line Detection for Autonomous Driving*, Winter 2017 – Winter 2019
- Zhening Zhang, *IoTs for Intelligent Intersection,* Spring 2017
- Hasith Rajakarunanay, *Connected cars and corridors*, Spring 2016
- Jiaming Xie, *Data analytics for online social networks*, Spring 2015
- Qijia Cao, Chingyeung Fang: *GENI demo on intelligent traffic sampling/inference*, Summer–Fall,14
- R. Marquiss, *Software-Defined Measurements with OpenFlow*, Spring 14
- J. Vaughen, *Detecting Malicious Traffic in Campus Wireless Networks*, Fall13-Spring 14
- C. Vu and J. Garrison, *Multiple Description Fusion Estimation with Compressive Sensing*, Spring 2012-Winter 13
- S. Lee, *Fast Filtered Sampling and Modulated Packet Sampling*, Spring 2008
- A. Qureshi, E. Lee, and G. Wu, *Monitoring and Compressing BGP Routing Tables*, Spring 2008
- J. Yin, *Wavelet based BGP Anomaly Detection*, Spring 2008
- B. Vuong, *Facebook Applications*, Spring 2008
- C. Chen, *Monitoring Framework for Wireless Mesh Networks*, Winter 2007
- B. Rodriguez, *Web Interface for Student Database and Messaging System*, Winter 2007
- A. Stromberg and M. Siegenthaler, *CollaborActive Transfer System (CATS)*, Spring 2006
- B. Iskikian, M. Pignati, and S. Wilson, *Exploring Wireless Ad-Hoc, Peer-to-Peer Connectivity for Delay/Disruption-Tolerant Applications*, Winter 2005
- A. Moerschell, *Characterizing Service Availability of IP-Backbone Networks*, Summer 2004
- K. Widjaja, *Hierarchical representation of PlanetLab Monitoring Data*, co-supervised by Matt Massie (UC Berkeley), Summer 2004
- P. Satarzadeh, *Improving Transport Protocols for Wireless Networks*, Summer/Fall 2003
- Y. Chin and T. Nguyen, *Router Testbed*, Summer 2003

- **UC Davis GREAT Program**
  - Shiliang Tang, *Network Inference with Active Probing*, Summer 2013 (winner of Outstanding Research Award for GREAT'2013)
  - Yumo Rong, *Trace Anonymization*, Summer 2013
  - Chuankai An, *Data Flow Measurements with Kalman Filter*, Summer 2012
  - Y. Dong, *Tracking Carbon Footprint with Smart Phone*, Summer 2010 UC Davis GREAT Program
  - J. Ma, *Understanding Internet Traffic Landscape Through Traffic Dispersion Graphs (TDGs)*, Summer 2010 UC Davis GREAT program
- **Summer interns at Sprint Advanced Technology Laboratories**
  - S. Agarwal, *The Impact of BGP Dynamics on Intra-Domain Traffic and Router CPU load*, Summer/Fall 2002, currently PhD candidate, University of California, Berkeley
  - A. Zeitoun, *An AS-Level Study of Internet Path Delay Characteristics*, currently PhD candidate, Summer/Fall 2002, University of Michigan, Ann Arbor
- **Undergraduate research project, UC Berkeley**
  - G. J. Lee, *Detecting Misbehaving Flows via Collaborative Aggregate Policing (DCAP): Implementation on Click Router*, co-supervised with L. Subramanian, Summer/Fall 2000