MARIA GORLATOVA

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EDUCATION

COLUMBIA UNIVERSITY, New York, NY

Ph.D., Electrical Engineering 2008 – 2013
M.Phil., Electrical Engineering 2011

- Ph.D. Thesis: Energy Harvesting Networked Nodes: Measurements, Algorithms, and Prototyping
- Advised by Prof. Gil Zussman
- GPA: 4.18/4.0

UNIVERSITY OF OTTAWA, Ottawa, ON, Canada

M.Sc., Electrical Engineering; Concentration: Computer Networks and System Security 2005 – 2007

- M.Sc. Thesis: Wormhole Attack Detection in Wireless Ad Hoc Networks
- Advised by Prof. Peter Mason and Prof. Ramiro Liscano
- GPA: 98/100

B.Sc., Electrical Engineering, Concentration: Systems Engineering 2000 – 2004

- *Summa Cum Laude;* GPA: 92/100; Major GPA: 98/100

SELECTED AWARDS AND HONORS

ACM HotMobile Best Demo Award 2026
IEEE ISMAR Best Paper Award 2025
IEEE Universal Augmented Interaction Workshop Best Paper Award 2025
DARPA Director's Fellowship Award 2025
ACM/IEEE IPSN Best Research Artifact Runner-up Award 2024
DARPA Young Faculty Award 2023
Cisco Research Award 2023
ACM ImmerCom Best Paper Award 2023
ACM UbiComp Best Poster Award 2022
NSF CAREER Award 2021
Meta Research Award 2021
IBM Faculty Award 2020, 2023
Duke University Pratt School of Engineering Nortel Networks Professorship 2020 – present
ACM/IEEE IPSN Best Research Artifact Award 2020
National Academy of Engineering's US Frontiers of Engineering (US FOE) Symposium Invitation 2020
N^2 Women Rising Star in Networking and Communications 2019
IEEE Communications Society Young Author Best Paper Award 2016
Columbia University Jury Award for Outstanding Achievement in Communications 2013
MIT EECS Rising Star 2013
Google Inc. Anita Borg USA Fellowship 2012
ACM SenSys Best Student Demo Award 2011
IEEE Communications Society Award for Advances in Communications 2011
ACM MobiSys Ph.D. Forum Best Speaker Award 2011
Finalist, Microsoft Research Ph.D. Fellowship 2011
Columbia University Presidential Fellowship 2008 – 2013
Alexander Graham Bell Canada Graduate NSERC CGS-D Scholarship, Ph.D. studies 2008 – 2010
Canada Graduate NSERC CGS-M Scholarship, M.Sc. studies 2005 – 2007
Ontario Graduate Fellowship (declined) 2005 – 2007
Xerox Canada Inc. Fellowship 2004

SELECTED EXPERIENCE

DUKE UNIVERSITY, Durham, NC 2018 – present
James N. & Elizabeth H. Barton Associate Professor, Pratt School of Engineering, 2025 – present
Associate Faculty Director, Karsh STEM+ Scholars Program, 2025 – present
Associate Director for XR, Duke Center for Computational and Digital Health Innovation, 2025 – present
Nortel Networks Assistant Professor, Pratt School of Engineering, 2020 – 2025
Assistant Professor, Electrical and Computer Engineering and Computer Science, 2018 – 2025
Leading the Intelligent Interactive Internet of Things (I^3T) Lab at Duke University Department of Electrical and Computer Engineering.

PRINCETON UNIVERSITY, Princeton, NJ 2016 – 2018
Associate Director, Princeton EDGE Lab, 2017 – 2018
Associate Research Scholar, Electrical Engineering Department
Senior member of the Princeton EDGE lab led by Prof. Mung Chiang.

D. E. SHAW RESEARCH, New York, NY 2014 – 2016
Engineering Program Manager, reporting to company's top engineering executive.
Led a $20mln+ custom Anton supercomputer design and development program. Managed activities of a cross-functional team of 40+ research scientists and hardware and software engineers (technical areas: ASICs, advanced PCBs, network architecture, software).

IBM, Armonk, NY 2014
Senior Strategy Consultant, Corporate Headquarters, IBM Chief Economist's Office.
Applied advanced data analytics techniques to the most pressing challenges faced by the company. Focused on both the development of analytics tools and on changing the associated corporate practices.

COLUMBIA UNIVERSITY, New York, NY 2008 – 2013
Research Assistant and Presidential Fellow, Electrical Engineering Department
Founding member of an ambitious Energy Harvesting Active Networked Tags project (EnHANTs, enhants.ee.columbia.edu) dedicated to enabling digital networking of commonplace objects – the Internet of Things.

TELCORDIA TECHNOLOGIES (Fortune 500 telecom R&D company), Piscataway, NJ 2007 – 2008
Research Scientist, Telcordia Applied Research
Examined network performance and security topics for US Department of Defense clients.

DEFENSE R&D CANADA (Scientific agency of the Dept. of National Defense), Ottawa, ON 2004 – 2007
Research Scientist (2006 – 2007), Research Assistant (2004 – 2005), Network Information Operations
Examined a range of network layer and medium access layer wireless network security topics (ad hoc network routing attacks, encryption, stealthy localization).

WALT DISNEY RESEARCH, *Research Assistant* (Ph.D. Intern), Zurich, Switzerland Spring 2011
Examined feasibility of providing proprietary wireless location services in Walt Disney parks. Patented the proposed base station identity management techniques.

SIRIUS SATELLITE RADIO, *Back-end Software Developer*, New York, NY Summer 2007
Enhanced functionality of a business-critical subscriber management system. Participated in all stages of software development lifecycle.

NORTEL NETWORKS, *Web Software Developer* (B.Sc. Intern), Ottawa, ON Fall 2003
Developed Intranet web applications using Perl, MySQL, ODBC/JDBC, Java, HTML, and shell scripting.

CANADIAN PATENT OFFICE, *Assistant Patent Examiner* (B.Sc. Intern), Hull, QC Spring 2003
Examined patent applications in the areas of software, electrical, and computer engineering.

SELECTED TEACHING EXPERIENCE

ECE 654 / COMPSCI 564, *Edge Computing* Spring 2020 – 2025, Fall 2018

- Graduate seminar designed and developed. First 4 installments taught as ECE/CS 590: Special Topics course.
- Spring 2026: enrollment: 15.
  Spring 2025: enrollment: 15. Student ratings: course 4.2/5, instructor 4.33/5
  Spring 2024: enrollment: 13. Student ratings: course 4.6/5, instructor 5.0/5
  Spring 2023: enrollment: 14. Student ratings: course 4.4/5, instructor 4.2/5
  Spring 2022: enrollment: 18. Student ratings: course 4.67/5, instructor 4.67/5
  Spring 2021: enrollment: 16. Student ratings: course 4.0/5, instructor 5.0/5
  Spring 2020: enrollment: 21. Student ratings: course 4.5/5, instructor 4.5/5
  Fall 2018: enrollment: 11. Student ratings: course 4.4/5, instructor 4.7/5
  This seminar-format class explores opportunities and challenges associated with edge computing, the diffusion of centralized cloud computing functionality to include resource-constrained systems in physical proximity to the users, such as cloudlets, mobile phones, and smart gateways. The course surveys recent advances in edge computing and its role in enabling the next generation of the Internet of Things and the smart cities of the future. Students learn the strengths and the limitations of edge computing systems and explore a range of algorithm and system adaptation techniques for developing edge-specific platforms, algorithms, and applications. Students complete an individual or a team-based research project, theory-oriented or applied.

ECE 356 / COMPSCI 356, *Computer Network Architectures* Fall 2025, 2024, 2021, 2019

- Undergraduate computer network fundamentals course.
- Fall 2025: enrollment: 13. Student ratings: course 4.08/5, instructor 4.0/5
  Fall 2024: enrollment: 50. Student ratings: course 3.3/5, instructor 3.5/5
  Fall 2021: enrollment: 43. Student ratings: course 3.4/5, instructor 3.8/5
  Fall 2019: enrollment: 39. Student ratings: course 4.1/5, instructor 4.2/5
  This course introduces students to the fundamentals of computer networks. The layered architecture of the network protocol stack is the focus of discussion. A variety of case studies will be drawn from the Internet, combined with practical programming exercises. At the end of the semester, students will understand core networking concepts, including the Internet architecture, HTTP, DNS, Sockets, TCP/IP, routing protocols, and multimedia and wireless and mobile networking. The students will be able to answer questions such as how to achieve reliable communications over unreliable channels, how to find a good path through a network, how to share network resources among competing entities, how to find an object in the network, and how to build network applications.

SELECTED PROFESSIONAL ACTIVITIES

Steering committee member:

ACM/IEEE SenSys 2024 – 2028
ACM/IEEE IPSN 2023 – 2024

Technical Program Committee (TPC) chair:

ACM SenSys	2025
ACM/IEEE IPSN	2023
IEEE Sarnoff Symposium	2019

Track chair:

Social Networks, Extended Reality, and Metaverse track, IEEE ICCCN	2025
Edge Computing track, IEEE ICDCS	2021
Internet of Things track, ABI Grace Hopper Celebration of Women in Computing	2016 – 2018

General chair:

ACM HotMobile	2027
ACM Workshop on Enhancing Security, Privacy, and Trust in Extended Reality (XR) Systems, co-located with ACM MobiHoc	2025
NSF Workshop on Networking and Systems Challenges in Immersive Computing	2025
ACM Workshop on Emerging Multimedia Systems, co-located with ACM SIGCOMM	2023
ACM MobiSys PhD Forum	2012

Best paper award committee member:

ACM MobiCom	2024
ACM MobiHoc	2023
ACM Symposium on Edge Computing (SEC)	2023

Workshop chair:

ACM MobiCom	2024

Demo and poster chair:

ACM SenSys	2022

Associate editor, ACM Transactions on Sensor Networks (impact factor: 4.1) 2024 – present
Area chair, Elsevier Computer Networks (impact factor: 4.47) 2019 – 2022

Guest editor, special issue:

ACM Trans. on Sensor Networks: Computing, Sensing, and Networking for Immersive Systems	2024
IEEE Network: Networking Challenges and Opportunities for Multi-user XR and the Metaverse	2023
IEEE Internet of Things Journal: Emerging Trends and Challenges in Fog Computing for the IoT	2019
IEEE Access: Sustainable Infrastructures, Protocols, and Research Challenges for Fog Computing	2019

Co-chair, Communications Working Group, OpenFog Consortium (**elected position**) 2016 – 2017

Fellowship awards co-chair, board member, N^2 Women 2016 – 2017

Session chair:

ACM HotMobile	2026
IEEE VRST	2025
IEEE ISMAR	2025
ACM MobiCom	2023
ACM/IEEE IPSN	2022
CPS-IoT Week IEEE Workshop on Fog Computing and the IoT	2019

ABI Grace Hopper Celebration of Women in Computing 2016

Scholarship committee member, ABI Grace Hopper Celebration of Women in Computing 2015, 2016

External search committee member, University of Copenhagen, Department of Computer Science 2024

TPC member, recent:

ACM MobiCom 2023 – 2026
2024 ACM MobiCom **Distinguished TPC Member** (4 recognized out of 114)
ACM SenSys 2020 – 2024, 2026
ACM MobiSys – light TPC 2026
IEEE ISMAR 2025
ACM VRST 2025
ACM SIGCOMM 2023 – 2025
ACM HotMobile 2023 – 2025
ACM ImmerCom, co-located with ACM MobiCom 2024, 2025
IEEE TRUST-XR, co-located with IEEE ISMAR 2025
IEEE SafeThings, co-located with IEEE S&P or ACM/IEEE CPS-IoT week 2021 – 2024
IEEE Workshop on Security and Privacy in Augmented, Virtual, and Extended Realities 2024
IEEE INFOCOM 2016 – 2021, 2024

TPC member, previous since joining Duke:

ACM Symposium on Edge Computing (SEC) 2023, 2024, ACM/IEEE IPSN 2021, 2022, 2024, ACM AgeTech, co-located with ACM MobiCom 2024, ACM EdgeSys 2024, ACM MobiHoc 2023, ABI Grace Hopper, Extended Reality track 2023, IEEE MetaCom, Metaverse Architectures and Applications track 2023, IEEE ICDCS 2020, 2022, ACM SmartWear, co-located with ACM MobiCom 2022, ACM EMDL, co-located with ACM MobiSys 2022, IEEE MetaSys, co-located with IEEE ISMAR 2022, IEEE ICNP 2019 – 2021, ACM ENSSys (co-located with ACM SenSys) 2014, 2019 – 2021, IEEE/ACM Workshop on Cyber-Physical-Human System Design, co-located with CPS-IoT week 2021, ACM LP-IoT, co-located with ACM MobiCom 2021, IEEE FogML'21 (co-located with IEEE INFOCOM) 2021, ACM SOSR 2020, IEEE HDR-Nets (co-located with IEEE ICNP) 2020, IEEE SECON 2016, 2018, 2019, ACM/IEEE ICCPS 2019, IEEE International Conference on Fog Computing 2019, IEEE GLOBECOM SAC - Internet of Things 2019, ACM CoNext Student Workshop 2019, IFIP Performance 2018, ACM/SIGBED EWSN 2018, IEEE LANMAN 2018, IEEE International Conference on Fog and Edge Computing 2018.

National funding agency service:

Leadership:

US National Science Foundation (NSF): CSR PI meeting breakout session co-leader 2025

Proposal review service:

US National Science Foundation (NSF): panelist, computer systems 2026
US National Science Foundation (NSF): panelist, communications and networking 2015, 2017, 2021, 2024
US National Science Foundation (NSF): panelist, human-computer interactions 2021, 2022, 2024
US National Science Foundation (NSF): panelist, future of work at the human-technology frontier 2023
US National Science Foundation (NSF): panelist, algorithms and systems 2016, 2017
Canada NSERC Discovery Grant: reviewer 2021, 2022, 2024
Dutch Research Council NWA-ORC: reviewer 2021
UK National Institute for Health Research (NIHR): reviewer 2019

Israel Science Foundation (ISF): reviewer 2016, 2017, 2019

Duke I3T Lab outreach events:
Duke I3T Open Lab Day, for university and local community members 2025
Duke I3T lab tour, Oxford High School, E4USA program 2025

PhD Forum panelist:
ACM/IEEE IPSN 2021

Judge, industry recognitions:
Consumer Electronics Show (CES) Innovation Awards 2016 – 2019
Consumer Electronics Show (CES) Asia Innovation Awards 2017

Advisory board member:
EU H2020 ENLIGHT'EM European Training Network in Low-Energy Visible Light IoT Systems 2019 – 2022
All Inspire Health (an Internet of Things startup) 2016 – 2017
Fit A.I. (an Internet of Things startup) 2016 – 2017

Reviewer, journals: ACM Trans. Human-Computer Interactions 2025, ACM IMWUT 2024, IEEE MultiMedia 2022, ACM IMWUT 2022, IEEE Transactions on Wireless Communications 2020, 2018, 2017, 2010 – 2015, IEEE Journal on Selected Areas in Communications 2019, 2015, IEEE/ACM Transactions on Networking 2019, 2009 – 2012, IEEE Transactions on Sustainable Computing 2018, IEEE Transactions on Mobile Computing 2017, 2011, IEEE Communications Magazine 2016, IEEE Transactions on Power Electronics 2016, IEEE Network Magazine 2015, 2016, IEEE Sensors 2013, ACM Transactions on Sensor Networks 2012, IEEE Transactions on Parallel and Distributed Systems 2009**,** 2010.

External reviewer, conferences: CVPR 2026, ACM HRI 2026, IEEE VR 2026, IEEE ISMAR 2024, IEEE VR 2024, ACM VRST 2023, 2024, IEEE ISMAR 2021 – 2023, ACM CHI 2022, IEEE INFOCOM 2009 – 2014, ACM SIGMETRICS 2011 – 2013, IEEE DCOSS 2012, IEEE GLOBECOM 2011, IEEE/IFIP WONS 2011, IEEE WiOpt 2009, IEEE MILCOM 2008.

Reviewer, other: Springer book proposal reviewer 2019.

Organizer: Academic Panel, OpenFog Consortium Member Meeting, 2017, N^2 Women Meeting, IEEE SECON 2010, EE/CS Networking Seminar Series, Columbia University, 2010, N^2 Women Meeting, ACM MobiCom 2009, EnHANTs Summer Students Workshop, Columbia University, 2009.

Mentor, ACM MobiHoc N2Women Workshop 2021
Judge, ACM Student Poster Competition, ABI Grace Hopper Celebration of Women in Computing 2016

Panel moderator:
From Risk to Resilience: Securing the Everyday XR Experience, XR Security Workshop 2025
Thriving Together: Tackling the Core Networking and Systems Challenges and Growing the XR Community. NSF Workshop on Networking and Systems Challenges in Immersive Computing 2025

Panelist, technology:
Practical deployment advice for edge computing, IoT Solutions World Congress Digital Summit 2021
Panel moderator: Fog and Edge from the Practitioners' Point of View, IEEE Fog World Congress 2017
Academic panel, OpenFog Consortium Seattle Member Meeting 2017
IEEE Women in Engineering International Leadership Conference (IEEE WIE ILC) 2017

Expert panel, OpenFog Consortium Fog Forum Denver	2017
Expert panel, OpenFog Consortium Fog Forum Atlanta	2017
Expert panel, Wireless Energy Transfer and Scavenging Techniques Workshop	2012

Panelist, student and career guidance:

Athena NSF AI Institute Faculty Fireside Chat	2025
Future Faculty Forum, IEEE ISMAR	2024
Future Faculty Forum, IEEE VR	2024
Academic Job Search: Behind the Scenes with the Search Committee, Duke University	2023
PhD student orientation faculty panel, Duke University Pratt School of Engineering	2021
Academic Job Search: Finding the Opportunities and Applying, Duke University	2020
Academic Job Search: The Interview Process, Duke University	2019
Challenges and Solutions to Address the Gender Gap in STEM, Duke University	2019
Undergraduate Women in Computer Science Summit, D. E. Shaw Research	2015
Industry careers panel, Columbia University Office of Postdoctoral Affairs	2015
Career speaker series, Columbia University Graduate Society of Women Engineers	2015
Panel for women in engineering, Columbia University School of Engineering	2012, 2013
Graduate student panel, Department of Electrical Engineering, Columbia University	2011

Invited participant:

Discover US Vision Workshop on Distributed Computing and Swarm Intelligence	2024
UIUC Center for Immersive Computing Summit	2024
Google Networking Research Summit	2023
DARPA ISAT Workshop: Wearable Supportive Personalized self-Regulation (WSPR)	2022
National Academy of Engineering's **US Frontiers of Engineering (NAE US FOE) Symposium**	2021
University of Washington Industry-academia Summit on Mixed Reality Security, Privacy, and Safety	2019
XR Access Symposium on Accessibility in Augmented and Virtual Reality	2019
Facebook Connectivity Lab Research Workshop	2018
Microsoft Research Faculty Summit: Systems	2018
Massachusetts Institute of Technology (MIT) **Rising Stars in EECS** Career Workshop	2013
Google Inc. Scholars Retreat	2012
ACM MobiSys'11 Ph.D. Forum. **Best Speaker Award**	2011
Google Inc. Graduate Researchers in Academia of Diverse Backgrounds CS Forum	2010
Illinois Wireless Summer School, University of Illinois at Urbana-Champaign (UIUC)	2009

RESEARCH GRANTS

Total since joining Duke University: *$5.91mln*

Current research grants:

[NSF25BRLow] *Co-Principal Investigator*, NSF ITE-2453803, "Breaking Low: End-to-End Delivery Technology for Interactive Multi-person XR Rehabilitation Activities." Joint with PI Jiasi Chen (University of Michigan) and Co-PIs Ethan Katz-Bassett (Columbia University) and Nakjung Choi (Nokia). Duke University portion $743,000. 2025 – 2027.

[DARPAYFA23] *Principal Investigator*, DARPA Young Faculty Award (YFA) HR0011-24-1-0001, "Runtime Identification of Detrimental Augmented Reality (AR) Experiences through AR-specific Quality of Experience (QoE) Modeling and Monitoring," $750,000. 2023 – 2026. **DARPA Director's Fellowship Award**.

[NSF24REU] *Principal Investigator*, REU supplement for NSF CNS-2312760, "CSR: Medium: Adaptive Environmental Awareness for Collaborative Augmented Reality," $18,000, 2024 – 2027.

[NSF23HCC] *Principal Investigator*, NSF IIS-2231975, "HCC: Small: Robust Object Detection for Mobile Augmented Reality in the Wild," $600,000. 2023 – 2026.

[NSF23CSR] *Principal Investigator*, NSF CNS-2312760, "CSR: Medium: Adaptive Environmental Awareness for Collaborative Augmented Reality," $1,200,000. 2023 – 2027. Joint with Co-PIs Carlee Joe-Wong (Carnegie Mellon University) and Jiasi Chen (University of Michigan).

[NSF23ExpandAI] *Co-Principal Investigator*, NSF IIS-2332744, "PARTNER: Neuro-Inspired AI for the Edge at UTSA (NAIAD)". PI Dhireesha Kudithipudi (UTSA). Gorlatova's portion $240,000. 2023 – 2027.

[Army23COE] *Co-Principal Investigator*, "DoD Center of Excellence in Advanced Computing and Software (CiARE)," DoD Center of Excellence led by PI Anu G Bourgeois (Georgia State University). PI Gorlatova's portion $600,000. 2023 – 2028.

[NSF23REU] *Principal Investigator*, REU supplement for NSF IIS-2046072, "CAREER: Foundations of IoT-Supported Mobile Augmented Reality." $8,000, 2023 – 2026.

[NSF21CAREER] *Principal Investigator*, NSF IIS-2046072, "CAREER: Foundations of IoT-Supported Mobile Augmented Reality." $550,000. 2021 – 2026.

[NSF21AI] *Senior Investigator*, NSF CNS-2112562, "AI Institute: Athena: AI-Driven Next-generation Networks at the Edge." Duke University-led center (PI Yiran Chen). Total $20,000,000. 2021 – 2027 Gorlatova's portion ~ $550,000.

Faculty awards:

[Cisco23] Cisco Research Center Award, "Enabling Multi-user Markerless Augmented Reality via Reinforcement Learning on Mobile Devices and the Edge," Joint with Co-PI Carlee Joe Wong (Carnegie Mellon University). 2023.

[Facebook21] Facebook Faculty Award, "Provably Robust 3D Point Cloud Classification for Mobile Augmented Reality." Joint with co-PI Neil Gong (Duke University). 2021.

[IBM20202023] IBM Faculty Award, "Robust Collaborative Inference in Multi-Tier Device-to-Cloud Internet of Things Architectures." 2020, 2023.

Previous since joining Duke:

[NASA22STTR] *Co-Principal Investigator*, NASA STTR *"*Demonstration of Space-Qualified Environmental Evaluation Drones with Wireless Intelligent Networked Data Processing (SPEEDWINDs)," collaboration between Nanohmics (PI John Sarik) and Duke University (Co-PI Maria Gorlatova). PI Gorlatova's portion $50,000. Aug. 2022 – Aug. 2023.

[LordEducInnov22] *Principal Investigator*, Thomas Lord Educational Innovation Grant Program, "User Context-Aware Augmented Reality (AR) for Medical and Human-Robot Collaboration Applications," $15,600, July 2022 – July 2023.

[NSF19CNS] *Principal Investigator*, NSF CNS-1908051, "Small: Collaborative Research: Towards Intelligent Multi-User Augmented Reality with Edge Computing." A collaborative Carnegie Mellon University (PI Carlee Joe-Wong) and Duke University (PI Maria Gorlatova) proposal. PI Gorlatova's portion $250,000. 2019 – 2023.

[NSF19CC*] *Co-Principal Investigator*, NSF CC*-1925550, "Integration: Archipelago: Linking Researchers On-Campuses and in the Cloud through SDN-Enabled Microsegmentation," Duke University submission jointly with Tracy Futhey (PI), Richard Biever (Co-PI), and William Brockelsby (Co-PI). $1,000,000 total. PI Gorlatova's portion $63,277. 2019 – 2022.

[NSF19REU] *Principal Investigator*, REU supplement for NSF CSR-1903136, "Small: Collaborative Research: Multi-tier Service Architecture in IoT-Edge-Cloud-Paradigms," $16,000, 2019 – 2021.

[NSF18CSR] *Principal Investigator*, NSF CSR-1903136, "Small: Collaborative Research: Multi-tier Service Architecture in IoT-Edge-Cloud-Paradigms," 2018 – 2021. A collaborative Yale University (PI Wenjun Hu) and Duke University (PI Maria Gorlatova) proposal. Duke University portion $38,872.

[LordFoundation19] *Principal Investigator*, "Towards Pervasive Multi-User Augmented Reality: Undergraduate Research and Course Development." $12,260. 2019 – 2020. `

[NCWIT19] *Principal Investigator*, National Center for Women, and Information Technology (NCWIT) Academic Alliance Seed Fund Award, Microsoft Research Faculty Summit Track, "Towards Engaging Women in Systems and Networking Research with Code+R&D project across ECE, CS, and OIT departments". Co-PIs Tracy Futhey, John Board. $10,000 total. 2019 – 2020.

[DARPA18BAE] *Senior Personnel*, Defense Advanced Research Projects Agency (DARPA) Dispersed Computing (DCOMP) Network Back-haul Layered Architecture (NEBULA) program. A $C subcontract under the NEBULA program led by BAE Systems. 2018 – 2019.

[AWS18] *Principal Investigator*, Amazon Web Services Cloud Credits for Research, "Optimizing Fog-based IoT Systems". Equivalent of $4,800 in Amazon Web Services Cloud computing credits. Co-PI Liang Zhang. 2018 – 2019.

Prior to joining Duke:

[AZURE17] *Principal Investigator*, Microsoft Azure Research Award, Internet of Things: Optimizing Fog-based IoT Systems. Equivalent of $20,000 in Microsoft Azure computing credits. Co-PIs Liang Zhang, Mung Chiang. 2017 – 2018.

[DARPA17BAE] *Senior Personnel*, Defense Advanced Research Projects Agency (DARPA) Dispersed Computing (DCOMP) Network Back-haul Layered Architecture (NEBULA) $9.7 mln award led by BAE Systems with subcontractors from Princeton University, MIT, NYU, CMU, and LGS Innovations. 2017 – 2018.

[DARPA17LGS] *Senior Personnel*, Defense Advanced Research Projects Agency (DARPA) Dispersed Computing (DCOMP) Dispersed Computing via Successive Refinement and Pricing with Resilience and Scale (DSPRS) $7.6 mln award led by LGS Innovations with subcontractors from Princeton University, University of Colorado Boulder, and BAE Systems. 2017 – 2018.

Travel grants: IEEE INFOCOM 2013, ACM SIGCOMM 2012, IEEE PerCom 2012, ABI Grace Hopper 2012, ACM SenSys 2011, ACM MobiSys 2011, ACM MobiCom 2010, IEEE SECON 2010, ACM MobiCom 2009.

Other:

[REUSITEDUKE] *Faculty Mentor*, NSF REU Site: Research Experience for Undergraduates for Meeting the Grand Challenges in Engineering, Duke University Pratt School of Engineering, 2017 – 2025.

PUBLICATIONS

Names of students, postdocs, and research associates I advised are underlined. Undergraduate contributors I advised are marked with a '*'.

Book Chapters

[Springer26] T. Scargill, S. Eom, Y. Chen, **M. Gorlatova**, Ambient Intelligence for Next-generation Augmented Reality, *Springer Handbook of the Metaverse,* Springer, pg. 3-53, January 2026 (**invited book chapter**).

[Wiley20] Y. Ruan, L. Zheng, **M. Gorlatova**, M. Chiang, C. Joe-Wong, Pricing Tradeoffs for Data Analytics in Fog-Cloud Scenarios, *Fognet and Fogonomics: Challenges and Practices of Fog Computing, Communication, Networking, Strategy, and Economics,* Wiley & Sons, March 2020 (**invited book chapter**).

Journal Publications

[SubmittedTMI25] S. Eom, **M. Gorlatova**, C. Zhao, and R. Beams, Evaluation of Marker-Based Medical Image Registration Using Augmented Reality Head-Mounted Display. Submitted to *IEEE Transactions on Medical Imaging*, 2025. Submitted May 2025.

[ToAppearTVCG26] S. Eom, T. Hu, W. Xu, L. Zou, E. Escobar, G. Streisfeld, A. Mall, B. B. Granger, and **M. Gorlatova**. Rhythms of Recovery: Patient-Centered Virtual Reality Exergame for Physical Rehabilitation in the Intensive Care Unit. To appear in *IEEE Transactions on Visualization and Computer Graphics* 2026, with a presentation at IEEE VR 2026.

[ToAppearIntelligenceMedicine26] S. Eom, T. Ma, M. Pajic, and **M. Gorlatova**, M. Hadziahmetovic, LIO-VisionAR: Intelligence-Enabled Augmented Reality Guidance for Laser Indirect Ophthalmoscope-based Retinal Laser Therapy. To appear in *Intelligence-Based Medicine*, 2026. Accepted Jan. 2026.

[ToAppearInternetComputing25] L. Duan, E. Rotondo, Y. Xiu, S. Eom, R. Chen, C. Li, Y. Hu, and **M. Gorlatova**, Probing the AR Scene Analysis Capabilities of Large Multimodal Models: Toward Reliable Real-Time Assessment Solutions. To appear in *IEEE Internet Computing Special Issue on Immersive Computing*, November 2025.
Accompanying dataset: https://github.com/ARResearcher/DiverseARPlus

[TVCG25a] Y. Xiu and **M. Gorlatova**. Detecting Visual Information Manipulation Attacks in Augmented Reality: A Multimodal Semantic Reasoning Approach. *IEEE Transactions on Visualization and Computer Graphics*, Vol. 31, No. 11, Nov. 2025. Presented at *IEEE ISMAR* 2025 (**8% acceptance rate**).
IEEE ISMAR 2025 Best Paper Award - 7 recognized, out of 217 accepted, 763 submitted.
Accompanying dataset: https://github.com/YM-Xiu/AR-VIM

[CIN2025] A. Frith, A. Mall, D. Streisfeld, K. Swaringen, E. Escobar, **M. Gorlatova**, B. B. Granger, Human Centered Design of a Virtual Reality Intervention to Promote Early Mobility in a Cardiothoracic Intensive Care Unit. *CIN: Computers, Informatics, Nursing*, Apr. 2025.

[TVCG25b] Y. Xiu, T. Scargill, and **M. Gorlatova**. ViDDAR: Vision Language Model-based Detrimental Content Detection for Augmented Reality. *IEEE Transactions on Visualization and Computer Graphics*, Vol. 31, No. 5, May 2025. Presented at *IEEE VR* 2025.
Accompanying dataset: https://github.com/YM-Xiu/ViDDAR-Dataset

[TVCG25a] S. Eom, S. Kim*, J. Jackson, D. Sykes, S. Rahimpour, **M. Gorlatova**, Augmented Reality-based Contextual Guidance through Surgical Tool Tracking in Neurosurgery, *IEEE Transactions on Visualization and Computer Graphics*, Vol. 31, No. 5, May 2025.

[TMC24] Y. Chen, S. Omoma*, H. Kwon*, H. Inaltekin, **M. Gorlatova**, Quantifying and Exploiting VR Frame Correlations: An Application of a Statistical Model for Viewport Pose. *IEEE Transactions on Mobile Computing*, Vol. 23, No. 12, Dec. 2024.

[NeurosurgicalFocus24] S. Eom, T. Ma*, N. Vutakuri*, T. Hu, A. P. Haskell-Mendoza, D. W. Sykes, **M. Gorlatova**, J. Jackson. Mixed Reality-Guided Twist-Drill Craniostomy Improves the Accuracy of External Ventricular Drain Placement. *Neurosurgical Focus*, special issue on Mixed Reality in Neurosurgery. Vol. 56, No. 1, Jan. 2024.

[TMC23] X. Zhang, S. Chen, Y. Zhang*, Y. Im, **M. Gorlatova**, S. Ha, C. Joe-Wong, Optimal Network Protocol Selection for Competing Flows via Online Learning, *IEEE Transactions on Mobile Computing*, Vol. 22, No. 8, Aug. 2023.

[TNSM23] S. Wang, S. Hosseinalipour, **M. Gorlatova**, C. Brinton, M. Chiang, UAV-assisted Online Machine Learning over Multi-Tiered Networks: A Hierarchical Nested Personalized Federated Learning Approach, *IEEE Transactions on Network and Service Management*, Vol. 20, No. 2, June 2023.

[IoTJ22b] Y. Han, Y. Chen, R. Wang, J. Wu, **M. Gorlatova**, Intelli-AR Preloading: A Learning Approach to Proactive Hologram Transmissions in Mobile AR, *IEEE Internet of Things Journal*, Vol. 9, No. 18, Sept. 2022.

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[SenSys11] G. Stanje, P. Miller, J. Zhu, A. Smith, O. Winn, R. Margolies, **M. Gorlatova**, J. Sarik, M. Szczodrak, B. Vigraham, L. Carloni, P. Kinget, I. Kymissis, and G. Zussman, Demo: Organic Solar Cell-Equipped Energy Harvesting Active Networked Tag Prototypes, in Proc. *ACM SenSys*, Seattle, WA, Nov. 2011.

ACM SenSys'11 Best Student Demonstration Award.

[MobiSys11] J. Zhu, G. Stanje, R. Margolies, **M. Gorlatova**, J. Sarik, Z. Noorbhaiwala, P. Miller, M. Szczodrak, B. Vigraham, L. Carloni, P. Kinget, I. Kymissis, G. Zussman, Demo: Prototyping UWB-Enabled Energy Harvesting Active Networked Tags, in Proc. *ACM MobiSys*, Washington, DC, June 2011.

[MobiCom10] M. Gorlatova, J. Chen, M. Szczodrak, E. Xu, A. Skolnik, A. Schwartz, Z. Noorbhaiwala, M. Zapas, L. Carloni, P. Kinget, I. Kymissis, D. Rubenstein, G. Zussman, Demo: Prototyping Energy Harvesting Active Networked Tags: Phase II MICA Mote-based Devices, *ACM MobiCom*, Chicago, IL, Sept. 2010.

[Secon10] M. Gorlatova, T. Sharma, D. Shrestha, E. Xu, J. Chen, A. Skolnik, D. Piao, P. Kinget, I. Kymissis, D. Rubenstein, G. Zussman, Demo: Prototyping Energy Harvesting Active Networked Tags with MICA2 Motes, in Proc. *IEEE SECON*, Boston, MA, June 2010.

Selected Poster Presentations

[ISMAR24] Y. Xiu, T. Scargill, **M. Gorlatova**, Poster: LOBSTAR: Language Model-based Obstruction Detection for Augmented Reality. In Proc. *IEEE ISMAR*, Seattle, WA, Oct. 2024.

[ARVO24] S. Eom, M. Pajic, **M. Gorlatova**, M. Hadziahmetovic. Improving Laser Targeting Accuracy with Augmented Reality in Retinal Laser Therapy, in Proc. *Investigative Ophthalmology & Visual Science*, 2024. Presented at the annual meeting of the *Association for Research in Vision and Ophthalmology (ARVO)*, Seattle, WA, May 2024.

[VR24] R. Byrne, Z. Qu, C. Fronk, S. Eom, T. Scargill, **M. Gorlatova**, Poster: AR Simulations in VR: The Case for Environmental Awareness, in Proc. *IEEE VR*, Orlando, FL, Mar. 2024.

[ARVO23] S. Eom, M. Pajic, **M. Gorlatova**, M. Hadziahmetovic. Augmented Reality for Retinal Laser Therapy, in Proc. *Investigative Ophthalmology & Visual Science*, 2023. Presented at the annual meeting of the *Association for Research in Vision and Ophthalmology (ARVO)*, New Orleans, LA, Apr. 2023.

[UbiComp22] T. Scargill, A. Dabrowski*, A. Xu*, **M. Gorlatova**, IoT-Enabled Environment Illuminance Optimization for Augmented Reality, in Proc. *ACM UbiComp*, Cambridge, UK, Sept. 2022. **ACM UbiComp Best Poster Award**.

[NAEFOE21] M. Gorlatova, Edge Computing-Supported Mobile Augmented Reality, National Academy of Engineering's US Frontiers of Engineering (NAE US FOE) Symposium, Feb. 2021 (**invited participant**).

[NSFPIMeeting19] M. Gorlatova, Intelligent Augmented Reality with Edge Computing, NSF CSR/NeTS 2019 Joint PI Meeting, Arlington, VA, Nov. 2019.

[HouseOfRepresentatives19] M. Gorlatova, M. Glushakov*, M. Wilkinson*, J. DeChicchis*, P. Naghizadeh, M. Chiang, Intelligent Augmented Reality with Edge Computing, 2nd Coalition for National Security Research's (CNSR) Science, Technology, and Innovation Exchange (STIx) on the Hill Briefing, Washington, DC, May. 2019.

[Facebook18] M. Gorlatova, C. Joe-Wong, P. Naghizadeh, R. Younes, J. Chen, M. Chiang, Intelligent Augmented Reality with Edge Computing, 1st Facebook Connectivity Lab Research Workshop, Dec. 2018 (**invited participant**).

[Columbia14] G. Grebla, **M. Gorlatova**, J. Sarik, M. Cong*, I. Kymissis, G. Zussman, Movers and Shakers: Kinetic Energy Harvesting for the Internet of Things, Columbia University Postdoc Research and Career Symposium, Aug. 2014. **Top 10 poster award**.

[Google12] M. Gorlatova, P. Kinget, I. Kymissis, D. Rubenstein, X. Wang, G. Zussman, Energy Harvesting Active Networked Tags for Ubiquitous Object Networking: Challenges and Solutions, Google Scholars Retreat, July 2012 (**invited participant**).

[Photovoltaic12] Y. Afsar, J. Sarik, **M. Gorlatova**, G. Zussman, I. Kymissis, Poster: Evaluating Photovoltaic Performance Indoors, in Proc. IEEE Photovoltaic Specialist Conference *(IEEE PVSC)*, Austin, TX, June 2012.

[Infocom11] S. Schmid, **M. Gorlatova**, D. Giustiniano, V. Vukadinovic, S. Mangold, Poster: Networking Smart Toys with ToyTalk and ToyBridge, in Proc. *IEEE INFOCOM*, Shanghai, China, Apr. 2011.

Selected Community Datasets

[GitHub25d] L. Duan, E. Rotondo, Y. Xiu, S. Eom, R. Chen, C. Li, Y. Hu, and **M. Gorlatova**, DiverseAR+ Dataset. Available at https://github.com/ARResearcher/DiverseARPlus. Accompanies *IEEE Internet Computing 2025* paper titled Probing the AR Scene Analysis Capabilities of Large Multimodal Models: Toward Reliable Real-Time Assessment Solutions.

[GitHub25c] Y. Xiu, **M. Gorlatova**, AR-VIM Dataset. Available at https://github.com/YM-Xiu/AR-VIM. Accompanies *IEEE TVCG* 2025 paper titled "Detecting Visual Information Manipulation Attacks in Augmented Reality: A Multimodal Semantic Reasoning Approach."

[GitHub25b] L. Duan, Y. Xiu, and **M. Gorlatova**. DiverseAR Dataset. Available at https://github.com/ARResearch-1/DiverseAR-Dataset. Accompanies *IEEE GenAI Workshop* 2025 paper.

[GitHub25a] Y. Xiu, T. Scargill, **M. Gorlatova**, ViDDAR Dataset. Available at https://github.com/YM-Xiu/ViDDAR-Dataset. Accompanies *IEEE TVCG* 2025 paper titled "ViDDAR: Vision Language Model-based Task-Detrimental Content Detection for Augmented Reality."

[GitHub24a] L. Duan, Y. Chen, Z. Qu, **M. Gorlatova**, BiGuide: Data Acquisition Guidance for Object Detection. GitHub, Apr. 2024. Available at https://github.com/BiGuideCollection/BiGuide. Accompanies ACM/IEEE IPSN 2024 paper BiGuide: A Bi-Level Data Acquisition Guidance for Object Detection on Mobile Devices. **ACM/IEEE IPSN 2024 Best Research Artifact Runner-up Award**.

[GitHub24b] L. Duan, Y. Chen, T. Scargill, **M. Gorlatova**, VI-SLAM point cloud datasets VIP500 and VIP500-D. GitHub, Apr. 2024. Available at https://github.com/timscargill/VIP-Datasets. Accompanies IEEE ICRA 2024 paper 3D Object Detection with VI-SLAM Point Clouds: The Impact of Object and Environment Characteristics on Model Performance.

[GitHub23b] T. Scargill, **M. Gorlatova**, Invisible Textures, GitHub, Oct. 2023. Available at https://github.com/timscargill/Invisible-Textures/ Accompanies ACM ImmerCom'23 paper Invisible Textures: Comparing Machine and Human Perception of Environment Texture for Augmented Reality.

[GitHub22b] G. Lan, T. Scagill, **M. Gorlatova**, EyeSyn: Eye Movement Dataset and Emulator Implementation. Available at https://github.com/EyeSyn/EyeSynResource. Accompanies ACM/IEEE IPSN'22 paper EyeSyn: Psychology-inspired Eye Movement Synthesis for Gaze-based Activity Recognition.

[GitHub22c] Y. Zhang*, T. Scargill, A. Vaishnav, G. Premsankar, M. Di Francesco, **M. Gorlatova**, InDepth, GitHub, July 2022. Available at https://github.com/InDepthOpensource/Code/. Accompanies ACM IMWUT'22 paper InDepth: Real-time Depth Inpainting for Mobile Augmented Reality.

[GitHub21b] Y. Chen, H. Kwon*, H. Inaltekin, **M. Gorlatova**, VR Viewport Pose Dataset, Dec. 2021. Available at https://github.com/VRViewportPose/VRViewportPose. Accompanies IEEE INFOCOM'22 paper VR Viewport Pose Model for Quantifying and Exploiting Frame Correlations.

[GitHub20a] G. Lan, **M. Gorlatova**, DesktopActivity Eye Tracking Dataset, GitHub, Nov. 2020. Available at https://github.com/GazeGraphResource/GazeGraph/. Accompanies ACM SenSys'20 paper GazeGraph: Graph-based Few-Shot Cognitive Context Sensing from Human Visual Behavior.

[GitHub20b] Z. Liu, J. Blanco, G. Lan, **M. Gorlatova**, Collaborative Augmented Reality: Multi-view Multi-distortion Image Dataset (MVMDD) and CollabAR Codebase, GitHub, Feb. 2020. Available at https://github.com/CollabAR-Source/. Accompanies ACM/IEEE IPSN'20 paper CollabAR: Edge-assisted Collaborative Image Recognition for Mobile Augmented Reality. **ACM/IEEE IPSN 2020 Best Research Artifact Award**.

[Crawdad14] M. Cong, K. Kim, **M. Gorlatova**, J. Sarik, I. Kymissis, G. Zussman, Human Motion for the Internet of Things Kinetic Energy Dataset, Community Resource for Archiving Wireless Data at Dartmouth (CRAWDAD), May 2014.

[Crawdad11] **M. Gorlatova**, M. Zapas, E. Xu, M. Bahlke, I. Kymissis, G. Zussman, Indoor Light Energy Measurements Dataset, Community Resource for Archiving Wireless Data at Dartmouth (CRAWDAD), Apr. 2011.

Selected Technical Reports and Proprietary Publications

ArXiv:

[ArXiv23b] T. Scargill, S. Eom, Y. Chen, **M. Gorlatova**, Ambient Intelligence for Next-generation Augmented Reality, arXiv:2303.12968, Mar. 2023. Preprint of the invited book chapter of the *Springer Handbook of the Metaverse.*

[ArXiv23a] Y. Chen, H. Inaltekin, **M. Gorlatova**, AdaptSLAM: Edge-Assisted Adaptive SLAM with Resource Constraints via Uncertainty Minimization, arXiv:2301.04620, Jan. 2023.

[ArXiv22] Y. Chen, H. Kwon*, H. Inaltekin, **M. Gorlatova**, VR Viewport Pose Model for Quantifying and Exploiting Frame Correlations, arXiv:2201.04060, Jan. 2022.

[ArXiv21b] T. Scargill, J. Chen, **M. Gorlatova**, Here to Stay: Measuring Hologram Stability in Markerless Smartphone Augmented Reality. arXiv: 2109.14757, Sept. 2021.

[ArXiv21a] S. Wang, S. Hosseinalipour, **M. Gorlatova**, C. Brinton, M. Chiang, UAV-assisted Online Machine Learning over Multi-Tiered Networks: A Hierarchical Nested Personalized Federated Learning Approach. arXiv:2106.15734, June 2021.

[ArXiv18] **M. Gorlatova**, H. Inaltekin, M. Chiang, Characterizing Task Completion Latencies in Fog Computing. arXiv:1811.02638, Nov. 2018.

[ArXiv17] H. Inaltekin, **M. Gorlatova**, M. Chiang, Virtualized Control over Fog: Interplay between Reliability and Latency. arXiv:1712.00100, Nov. 2017.

[ArXiv14] R. Margolies, **M. Gorlatova**, J. Sarik, P. Kinget, I. Kymissis, G. Zussman, Project-based Learning within a Large-Scale Interdisciplinary Research Effort. arXiv: 1410.6935, Oct. 2014.

[ArXiv13] **M. Gorlatova**, J. Sarik, M. Cong*, I. Kymissis, G. Zussman, Movers and Shakers: Kinetic Energy Harvesting for the Internet of Things. arXiv:1307.0044, July 2013. **Selected media coverage: MIT Technology Review 2013**.

Industry whitepapers:

[OFC17] H. Moustafa, **M. Gorlatova**, C. Byers, E. Schooler, K. Walcott, J. Acharya, A. Mosenia, B. Murthy, C. Vasters, S. Kambhatla, OpenFog Consortium Fog Use Case Scenarios: Autonomous Driving, Oct. 2017.

Other:

Columbia University Department of Electrical Engineering: 3 technical reports (first author).

Telcordia Technologies: 3 technical reports submitted to the US Department of Defense clients (coauthor).

Defense R&D Canada: 7 technical reports (4 first author, 3 coauthor).

PATENTS & INVENTION DISCLOSURES

[Disclosure26] H. Xe, **M. Gorlatova**, Methods for Detecting Smart Glasses with Waveguide-based AR Displays. Duke University invention disclosure form filed Feb. 2026.

[Disclosure25b] Y. Xiu, **M. Gorlatova**, System for Detecting Information Manipulative Virtual Content in Augmented Reality. Duke University invention disclosure form filed Nov. 2025.

[Disclosure25a] S. Eom, B. B. Granger, A. Mall, **M. Gorlatova**, Applications for Assisting Physical Rehabilitation of Patients in the Intensive Care Unit through Extended Reality Exergame. Duke University invention disclosure form filed Nov. 2025.

[Disclosure24] L. Duan, Y. Chen, Z. Qu, **M. Gorlatova**, Methods for Guiding Users on Collecting Domain-specific Training Data. Duke University invention disclosure form filed Apr. 2024.

[Disclosure23] S. Eom, M. Pajic, M. Hadziahmetovic, **M. Gorlatova**, Methods for Assisting Clinicians during Retinal Laser Therapy through Augmented Reality. Duke University invention disclosure form filed Apr. 2023.

[Patent14] S. Mangold, R. Aiello, **M. Gorlatova**, System and Method for Managing Location Services in Wireless Networks, Disney Research Zurich, Patent # US 2014/032,3150.

CONTRIBUTIONS TO INDUSTRY STANDARDS

[OpenFog17] OpenFog Consortium Reference Architecture, Feb. 2017. Adopted as the **IEEE 1934 standard**, June 2018.

SELECTED MENTORSHIP

Postdoctoral associates:

Hanting Ye	Spring 2025 – present
Timothy James Scargill	2024
Guohao Lan. **First subsequent position: Assistant Professor at TU Delft**	2018 – 2021

Ph.D. students:

Eli Rotondo	Spring 2025 – present
Tianyuan (Alex) Du	Fall 2024 – present
Sihun Baek	Fall 2024 – present
Yanming Xiu	2024 – present
Christian Fronk	2023 – present
Zhehan Qu	2023 – present
Tianyi Hu	2022 – present
Lin Duan	2022 – 2025
Joined *NVIDIA* Spatial Computing & XR Group in Fall 2025	
Sarah Sangjun Eom	2021 – 2025
Joined *Exponent* Biomedical Engineering & Sciences Practice in Fall 2025	
Ying Chen. **2023 EECS Rising Star, 2023 Cyber-Physical Systems (CPS) Rising Star**	2019 – 2024
Joined ***Penn State University*** **as an Assistant Professor** in Summer 2025	
Timothy James Scargill	2019 – 2024
Yuqi Han, Tongji University, China (PhD advisor Jun Wu)	2019 – 2020
Joined Dalian University of Technology as an Assistant Professor in January 2024	

Jose Manjarres, Universidad del Norte, Colombia (PhD advisor Mauricio Pardo Gonzalez) 2019 – 2020
Gopika Premsankar, Aalto University (PhD advisor Mario Di Francesco) Summer 2019
Joined **Aalto University as an Assistant Professor** in January 2024
Jun Li, KTH, visiting student at Princeton University (PhD advisor Jiajia Chen) 2018 – 2019
Robert Margolies, Columbia University 2011 – 2013

M.S. students:
Yanhe Zhu, Duke University, ECE 2026 – present
Qi Chen, Duke University, ECE 2026 – present
Jiacheng Guo, Duke University, Game Design 2025 – present
Bodapati Vishnu Sai Vardhan, Duke University, Game Design 2025 – present
James Yong, Duke University, Game Design 2025 – present
Zetong Pan, Duke University, CS 2025 – present
Conrad Li, Duke University, ECE 2025
Iara Ravagni, Duke University, Game Design 2025
Ashley A. Frith, Georgia Tech, summer research associate at Duke University Summer 2024
Fan Yang, Duke University, ECE 2024
Kaijian Huang, Duke University Spring 2024
Susy Su, Duke University Fall 2023
Siwen Dong, Duke University Summer 2023
Xichu Xiao, Duke University Summer 2023
Owen Gibson, Duke University 2022
Achilles Dabrowski, Duke University 2022
Lucas Liu, Duke University 2021
Zida Liu, Duke University 2019 – 2020
Tianrui (Felix) Zhang, Duke University 2020
Nisarg Dabhi, Duke University 2018 – 2019
Litian Liu, Princeton University 2016 – 2017
Edward Chang, National Chiao Tung University, visiting student at Princeton University 2017
Gerald Stanje, University of Klagenfurt, visiting student at Columbia University 2011 – 2013
Haodan Huang, Columbia University 2011 – 2012
Zainab Noorbhaiwala, Columbia University 2010 – 2011
Sonal Shetkar, Columbia University 2010 – 2011
Tarun Sharma, Columbia University 2009 – 2010
Enlin Xu, Columbia University 2009 – 2010
Shashang Melkote, Columbia University 2009
Aimee Paung, Columbia University 2009
Ellen Shlossberg, Columbia University 2009
Dan Lynch, Royal Military College of Canada, visiting student at Defense R&D Canada 2006 – 2007

Post-bacc. associates:
Ryleigh Byrne Fall 2023 – Spring 2024

B.S. students:
David Jeong, Duke University 2026 – present
Sulaiman Khydyr, Duke University 2026 – present
Val Kasabrukhau, Duke University 2026 – present
Sofa Radkova, Duke University 2026 – present

Nathaniel Corey, Duke University	2026 – present
Jamie Tan, Duke University	2026 – present
Elisa Torres Durney, Duke University	2026 – present
Skylar Knight, Duke University	2025 – present
Yuhuan Zhang, Duke University	2025 – present
Aashika Jagadeesh, Duke University	2025 – present
Ahmad Choudhary, Duke University	2024 – 2025
Tristan LoGuidice, UNC, summer REU student at Duke University	Summer 2025
Junfeng Lin, Stanford University, summer REU student at Duke University	Summer 2025
Alice Hu, Duke University	2023 – 2025
Ryan Chen, Duke University	2023 – 2025
Dhruva Barua, Duke University	2025
Liam Williams, Duke University	2025
Bharat Krishnan, Duke University	2024
Kendall Powe, Tuskegee University, visiting REU student at Duke University	Summer 2024
Fareeda Akewusola, UNC Chapel Hill, visiting REU student at Duke University	Summer 2024
Tiffany Ma, Duke University	2022 – 2024
Tahsin Rahman, Duke University	2024
Alex Meng, Duke University	2023 – 2024
Ritvik Janamsetty, Duke University	2022 – 2024
Alexander Du, Duke University	2023 – 2024
Jingcheng Ni, Duke University	2024
Muchang Bahng, Duke University	2023
Lukas Dannull, Duke University	2023
Ashish Murthy, IIT Putna, visiting REU student at Duke University	Summer 2023
Shivani Karanth, NC State University, visiting REU student at Duke University	Summer 2023
Neha Vutakuri, Duke University	2022 – 2023
Seijung Kim, Duke University **Howard G. Clark Award for Excellence in Undergr. Research**	2021 – 2023
Darius Huang, Duke University	2022
Liuren Yin, Duke University	2022
Jeremy Suh, University of Virginia, visiting REU student at Duke University	Summer 2022
Sasamon Omoma, Duke University	2021 – 2022
Vineet Alaparthi, Duke University	2021 – 2022
Alex Xu, Duke University. **Spring 2022 Best ECE Independent Study Poster Award**	2021 – 2022
Jason Dong, Duke University	2022
Mary Jiang, Duke University	2021
Achilles Dabrowski, Duke University	2021
Aining Liu, Duke University	2021
Rohit Raguram, Duke University	2021
Ashley Kwon, Duke University	2020 – 2021
Emily Eisele, Widener University, visiting REU student at Duke University	Summer 2021
Maria Christenbury, Clemson University, visiting REU student at Duke University	Summer 2021
Megan Mott, UNC Chapel Hill, visiting REU student at Duke University	Summer 2021
Yunfan Zhang, Duke University	2019 – 2021
Mohammad Khatami, Duke University	2021
Brianna Butler, Duke University	2020 – 2021
Priya Rathinavelu, Duke University	2020 – 2021
Shreya Hurli, Duke University	2020 – 2021

Michael Glushakov, Duke University	2018 – 2020
Steven Li, Duke University	2020
Achintya Kumar, Duke University	2020
Hunter Gregory, Duke University	2020
Orion Hsu, Duke University	2020
Davis Booth, Duke University	2019 – 2020
Grace Patel, Duke University	Spring 2020
Daisy Ferleger, Duke University	Spring 2020
Bailey Heit, Duke University	Spring 2020
Bogyung Kim, Duke University	Spring 2020
Cyan DeVeaux, Duke University. **Stanford University Graduate and EDGE Fellowships**	2019 – 2020
Jason Zhou, Duke University	2019 – 2020
Joseph DeChicchis, Duke University	2019 – 2020
Camden Vassallo, Duke University	Fall 2019
Michael Zhang, Duke University	Fall 2019
Jovan Stojkovic, University of Belgrade, visiting REU student at Duke University	Summer 2019
Courtney Johnson, NC A&T State University, visiting REU student at Duke University	Summer 2019
Charles Papandreou, Duke University	2019
Madeline Wilkinson, Duke University	Spring 2019
Kunaal Sharma, Duke University	Spring 2019
Surin Ahn, Princeton University. **Stanford University Graduate Fellowship**	2017 – 2018
Chege Gitau, Princeton University	2016 – 2017
Christian Bernstein, Berlin School of Economics and Law, IBM co-op term	2014
Ishaan Sayal, PEC University of Technology, visiting student at Columbia University	2013
Kanghwan Kim, Cooper Union, visiting student at Columbia University	2012 – 2013
Luis Pena, Columbia University	2012 – 2013
Mina Cong, Columbia University. **Electrical Engineering Department Research Award**	2011 – 2013
Albert Maldonado, University of Puerto Rico, visiting REU student at Columbia University	2012
Michael Zapas, Columbia University	2010 – 2011
Hari Subedi, University of Arizona, visiting REU student at Columbia University	2010
Mark Kelly, University of Ottawa, Defense R&D Canada co-op term	2006

B.S. Honors and Graduation with Distinction projects:

Advisor: Duke University: Tiffany Ma 2024; Ritvik Janamsetty 2024; Seijung Kim 2023; Neha Vutakuri 2023; Alex Xu 2022; Ashley Kwon 2021; Joseph DeChicchis 2020.
Reader: Duke University: Cyan DeVeaux, 2020. Princeton University: Surin Ahn, 2018, Akash Levy, 2018.

High school students:

Joshua Chilukuri, Duke University / NC School of Science and Mathematics	Summer 2025 - present
Shunav Sen, Duke University / NC School of Science and Mathematics	Summer 2025 - present
Junfeng Lin, Duke University / NC School of Science and Mathematics	2024 - 2025
Adrian Willett, Duke University / NC School of Science and Mathematics	Summer 2025
Dhun Pandya, Duke University / NC School of Science and Mathematics	Summer 2025
Tristan LoGuidice, Duke University / NC School of Science and Mathematics	2024 – 2025
Vanessa Tang, Duke University / North Carolina School of Science and Mathematics	2023 – 2024
Jonathan Zeng, Duke University / North Carolina School of Science and Mathematics	2023 – 2024
Juan Blanco, Duke University. **DukeRep Outstanding Trainee Award**	Summer 2019
Kyle Ready, Princeton University	Summer 2018

Chang Sun, Columbia University 2011 – 2012
Shakhul Hai, Columbia University Summer 2009

Programs for involving undergraduate students in research:
NSF REU Site for Meeting Grand Challenges of Engineering for the 21st Century, Duke Univ. 2019 – 2025
NSF Center for Integrated Access Networks REU Site, Columbia University 2010, 2012

Programs for involving high school students in research:
North Carolina School of Science and Mathematics Mentorship Program 2023 – present
Duke Research in Engineering Program for high school students (DukeREP) 2019
Harlem Children Society High School Program 2009, 2011 – 2012

Other:
Mentoring: Duke University Code+ team, Augmented Reality for Duke Lemur Center project 2020

UNIVERSITY SERVICE

Departmental and School of Engineering committees:
Space Committee, Electrical and Computer Engineering Dept., Duke University 2025 – present
Duke I/O Magazine Advisory Board, Pratt School of Engineering, Duke University 2025
Comput. Medicine Faculty Search Committee, Pratt School of Engineering, Duke University 2024 – 2025
PoP Reappointment Committee, Electrical and Computer Engineering Dept., Duke University 2023
Computer Engineering Faculty Candidates Zoom Screening, ECE Dept., Duke University 2023
Faculty Search Committee, Mechanical Eng. and Material Science Dept., Duke University 2021 – 2022
Faculty Search Committee, Electrical and Computer Engineering Dept., Duke University 2021 – 2022
Graduate Studies Committee, Electrical and Computer Engineering Dept., Duke University 2021 – 2022
Academic Dishonesty Panel, Electrical and Computer Engineering Dept., Duke University Fall 2021
Undergr. Studies Committee, Electrical and Computer Engineering Dept., Duke University 2019 – 2021
Faculty Search Committee, Computer Science Dept., Duke University 2018 – 2019

PhD thesis committees, Electrical and Computer Engineering Department, Duke University:
Arjun Sridhar, 2025. Adviser Y. Chen. Defense Mar. 2025.
Jianyi Zhang, Spring 2025. Adviser Y. Chen. Defense Mar. 2025.
David Hunt, 2022 – present. Preliminary exam Nov. 2024. Adviser M. Pajic.
Pingcheng Jian, Apr. 2024 – present. Preliminary exam May 2024. Adviser B. Chen.
Jingwei Sun, Apr. 2022 - present. Preliminary exam May 2024. Adviser Y. Chen.
Bhavna Gopal, 2024 – 2025. Adviser Y. Chen. Preliminary exam Jan. 2024. Defense Mar. 2025.
Hongbin Liu, 2023 – present. Adviser N. Gong.
Tunhou Zhang, 2023 – present. Adviser Y. Chen. Preliminary exam Apr. 2023.
Suya Wu, 2022 – 2023. Adviser V. Tarokh. Preliminary exam Aug. 2022. Defense March 2023.
Jinyuan Jia, 2021 – 2022. Adviser N. Gong. Preliminary exam Oct. 2021. Defense July 2022.
Ang Li, 2019 – 2022. Adviser Y. Chen. Preliminary exam Apr. 2021. Defense May 2022.
Haibei Zhu, 2021. Adviser M. Cummings. Defense June 2021.
Dan Sun, 2019 – 2021. Adviser B. Lee. Preliminary exam Apr. 2021.
Lucy Chikwetu, 2019 – 2023. Advisers J. Dunn, R. Younes. Preliminary exam Apr. 2021. Defense Nov. 2023.
Enmao Diao, 2021 – 2023. Adviser V. Tarokh. Preliminary exam Apr. 2021. Defense July 2023.
Jiachen Mao, 2018 – 2020. Adviser Y. Chen. Preliminary exam Feb. 2020. Defense July 2020.
Rana Elnaggar, 2018 – 2020. Adviser K. Chakrabarty. Preliminary exam Jan. 2019. Defense Aug. 2020.
Kent Nixon, 2018 – 2019. Adviser Y. Chen. Preliminary exam Mar. 2019. Defense: Dec. 2019.

Yuhao Li, 2019. Adviser B. Lee. Preliminary exam May 2019.
Fan Chen, 2018 – 2019. Adviser Y. Chen. Preliminary exam Nov. 2019.

PhD thesis committees, Computer Science Department, Duke University:
Xiao Zhang, 2019 – 2023. Advisers B. Maggs, X. Yang. Preliminary exam May 2021. Defense June 2023.
Shengbao Zheng, 2018 – 2020. Adviser X. Yang. Preliminary exam Dec. 2018. Defense Mar. 2020.
Nisarg Raval, 2018 – 2019. Adviser A. Machanavajjhala. Defense Mar. 2019.

PhD thesis committees, Civil and Environmental Engineering Department, Duke University:
Aaron Appelle, 2022 – present. Adviser J. Lynch. Preliminary exam Dec. 2022

PhD thesis committees, Biomechanical Engineering Department, Duke University:
Yihang Jiang, 2022 – present. Adviser J. Dunn. Preliminary exam Jan. 2023

PhD thesis committees, Department of Mechanical Engineering and Material Science, Duke University:
Kavinayan Sivakumar, 2023. Adviser M. Zavlanos. Thesis defense July 2023.

Qualifying exams, Electrical and Computer Engineering Department, Duke University:
James Kiessling, Nov. 2024. Advisor Y. Chen
Haocheng Meng, Nov. 2024. Advisor M. Pajic
Yinsen Jia, Nov. 2024. Advisor B. Chen
Zhihui Gao, Apr. 2023. Advisers T. Chen and Y. Chen
David Hunt, Dec. 2022. Adviser M. Pajic
Yuhao Wu, Apr. 2022. Adviser Y. Chen
Chen-Chia Chang, Apr. 2022. Adviser H. Li
Zhenzhou (Tom) Qi, Apr. 2022. Adviser T. Chen
Pingcheng Jian, Apr. 2022. Adviser M. Zavlanos
Shiyi Jiang, Apr. 2021. Adviser K. Chakrabarty
Tunhou Zhang, Apr. 2021. Adviser Y. Chen
Anne French, Apr. 2021. Adviser M. Cummings
Shiyu Li, Apr. 2020. Adviser Y. Chen
Ang Li, Oct. 2019. Adviser Y. Chen
Dan Sun, Apr. 2019. Adviser B. Lee
Lucy Chikwetu, Feb. 2019. Adviser D. Sorin
Fan Chen, Oct. 2018. Adviser Y. Chen
Jiachen Mao, Oct. 2018. Adviser Y. Chen

Qualifying exams, Computer Science Department, Duke University:
Yuege Chen, May 2019. Adviser X. Yang
Xiao Zhang, May 2019. Adviser B. Maggs

MS thesis committees, Electrical and Computer Engineering Department, Duke University:
Afsana Chowdhury, 2022. Adviser M. Pajic. MS Thesis defense Nov. 2022.

Other, Electrical and Computer Engineering Department, Duke University:

M.S. final exam poster session committee	2025
M.S. final exam poster session committee	2023
Faculty retreat panel speaker	2021
B.S. independent study poster competition judge	2018 – 2020

M.S. final exam poster session committee 2018

Other, Pratt School of Engineering:

Duke Center for Computational and Digital Health Innovation, Associate Director, XR 2025 – present
MS Project Committee, MEMS Dept., Jim Huang. Adviser M. Pajic. Spring 2025
NSF CAREER Proposals: How to Prepare, MEMS Dept. Junior Faculty Roundtable 2025
Duke Bass Connections proposals reviewer 2021
GEM middle school girls' Summer Workshop faculty speaker 2019

Other, Duke University:

DIBS Germinator Awards reviewer 2025

SELECTED ADDITIONAL TRAINING

Project Management (New York University 2015), Proposal Writing (Princeton University 2016), Product Management (New York General Assembly 2014), Micro-MBA (IBM 2014).

Certifications: Project Management Professional PMI PMP, 2016 – 2019.

SELECTED INVITED TALKS

Conferences and Workshops

Possible at Last: Using Vision-Language Models to Evaluate and Secure Mixed-Reality Experiences:

- *AWE USA*, Long Beach, CA, June 2025. **Top AR/VR industry conference**.
  Video of the talk: https://www.youtube.com/watch?v=aIqXJA2Rfpo

Runtime Identification of Task-Detrimental Augmented Reality Experiences:

- Approaching AR Design & Development with a Security, Privacy, & Safety Mindset (*IEEE SafeAR*) Workshop, co-located with *IEEE ISMAR'24*, Seattle, WA, Oct. 2024.

Intelligent Mobile Augmented Reality: Promise, Challenges, and Solutions:

- **Keynote speaker**, ACM Workshop on Embedded and Mobile Deep Learning *(ACM EMDL*), co-located with *ACM MobiSys'22*, Portland, OR, July 2022.

Towards Internet of Things-Supported Mobile Augmented Reality:

- *AWE USA*, Santa Clara, CA, Nov. 2021. **Top AR/VR industry conference**.

Towards Edge Computing-Supported Mobile Augmented Reality:

- *ABI Grace Hopper Celebration of Women in Computing*, Oct. 2020.
- *Princeton Edge Lab 10th Year Celebration,* Princeton, NJ, May 2019.
- *BioIT World Conference*, Boston, MA, Apr. 2019.

Towards Intelligence on the Edge: Restructuring Computing to Enable the Next Generation of the IoT:

- *IBM Back to School Seminar Series*, Durham, NC, June 2019.
- *Industrial Internet Consortium (IIC) Technology Working Group* meeting, Raleigh, NC, Feb. 2019.
- *IEEE Fog World Congress*, San Francisco, CA, Oct. 2018.
- *IEEE Sarnoff Symposium*, Newark, NJ, Sept. 2018.

Light, Motion, Fog: Networking Commonplace Objects with Energy Harvesting and Fog Computing:

- **Keynote speaker**, ACM Workshop on Energy Harvesting and Energy Neutral Systems *(ACM ENSsys*), co-located with *ACM SenSys'17*, Delft, Netherlands, Nov. 2017.

Fog Computing: Challenges and Solutions:

- *ABI Grace Hopper Celebration of Women in Computing*, Orlando, FL, Oct. 2017.

The OpenFog Reference Architecture: Unified Framework and a Roadmap:

- *Through the Fog Workshop*, University of Pisa, Pisa, Italy, Feb. 2017.

Energy Harvesting Active Networked Tags for Ubiquitous Object Networking: Challenges and Solutions:

- *Wireless Energy Transfer and Scavenging Techniques Workshop*, IEEE Microwave Symposium (*IEEE IMS'12*), Montreal, QC, Canada, June 2012.
- Ph.D. Forum, ACM Conference on Mobile Systems, Applications, and Services *(ACM MobiSys'11),* Bethesda, MD, June 2011.
- *IDTechEx Energy Harvesting and Storage USA'10 Conference*, Boston, MA, Nov. 2010.

Selected Academic and Industrial Seminars

Toward Evaluating and Securing XR Experiences in Real Time with Large Multimodal Models (LMMs):

- UTSA AI Spring School, February 2026.

Possible at Last: Using Large Multimodal Models to Evaluate and Secure Mixed-Reality Experiences:

- Center for Human-Computer Interaction at Virginia Tech (CHCI@VT) Seminar Series, March 2026, online. **Headliner**.
- The 12th International Conference on Next-generation Computing, Communication, Systems and Security (12th NSysS 2025), Dec. 2025, online. **Keynote speaker**.
- Digital Horizons: A Summer Workshop on Digital Twins and the Metaverse, *Birla Institute of Technology and Science (BITS)*, Pilani Dubai (virtual presentation), June 2025.

Runtime Identification of Task-Detrimental Augmented Reality Experiences:

- DARPA Intrinsic Cognitive Security (ICS) PI Meeting, January 2026.
- DARPA Intrinsic Cognitive Security (ICS) PI Meeting, July 2025.
- DARPA Intrinsic Cognitive Security (ICS) PI Meeting, Jan. 2025.
- DARPA Intrinsic Cognitive Security (ICS) Program Kick-off Meeting, July 2024.

Edge and IoT-supported Intelligent Augmented Reality: Promise, Challenges, and Solutions:

- *Ohio State University* Department of Electrical and Computer Engineering Seminar Series, Feb. 2025.
- US Food and Drug Administration (FDA) Center for Devices and Radiological Health Seminar Series, Oct. 2024.
- Duke University-hosted U.S. Patent and Trademark Office Site Education Experience Program, May 2024.
- *University of Michigan* Department of Electrical and Computer Engineering, Communications and Signal Processing Seminar Series, Apr. 2024.
- *University of Texas at San Antonio,* UTSA Matrix AI Consortium, Mar. 2024.
- *University of Southern California* Department of Electrical and Computer Engineering, Cyber-physical Systems Seminar Series, Nov. 2023.
- *Arizona State University* Department of Electrical and Computer Engineering, Nov. 2023.
- *Carnegie Mellon University* Department of Electrical and Computer Engineering, Nov. 2023.
- NSF Computer Systems Research (CSR) PI meeting, *Duke University*, Oct. 2023.

- GVU Brow Bag Seminar Series, *Georgia Tech*, Sept. 2023.
- *University of North Carolina at Chapel Hill* Department of Computer Science, Sept. 2023.
- Duke Computational Medicine Seminar Series, *Pratt School of Engineering, Duke University*, Sept. 2023. **Inaugural speaker**.

Intelligent Mobile Augmented Reality: Promise, Challenges, and Solutions:

- Distinguished Researcher Speaker Series, *Accenture Labs*, May 2023.
- *Rice University,* Department of Computer Science, Oct. 2022.
- *NSF AI Athena Institute*, Durham, NC, June 2022.

Distributed Mobile Augmented Reality Architectures:

- *Augmented Reality for Enterprise Alliance (AREA)*, Feb. 2022. AREA is a global non-profit organization dedicated to widespread adoption of interoperable AR-enabled enterprise systems. AREA members include Boeing, Lenovo, Magic Leap, Medtronic, NIST, Qualcomm, and Siemens.

Edge Computing-Supported Mobile Augmented Reality:

- *Missouri S&T University, Department of Computer Science,* Nov. 2020.

Towards Intelligence on the Edge: Restructuring Computing to Enable the Next Generation of the IoT:

- *Duke University Pratt School of Engineering TEER Talk*, Mar. 2019.

Life on the Edge: Connecting Everyday Objects with Energy Harvesting and Fog Computing:

- *University of Toronto* Department of Electrical and Computer Engineering, Apr. 2018.
- *University of Toronto* Department of Computer Science, Apr. 2018.
- *University of Virginia* School of Engineering and Applied Science, Mar. 2018.
- *University of Minnesota Twin Cities* Department of Computer Science and Engineering, Mar. 2018.
- *Cornell University* Department of Electrical and Computer Engineering, Mar. 2018.
- *Cornell Tech,* Mar. 2018.
- *Northeastern University* Department of Electrical and Computer Engineering, Mar. 2018.
- *University of Pennsylvania* Department of Electrical and Systems Engineering, Mar. 2018.
- *University of Victoria* Department of Computer Science, Mar. 2018.
- *Yale University* Departments of Electrical Engineering and Computer Science, Mar. 2018.
- *University of Wisconsin at Madison*, Electrical and Computer Engineering Department, Feb. 2018.
- *Duke University* Pratt School of Engineering, Feb. 2018.
- *George Washington University* Department of Electrical Engineering, Feb. 2018.

The Most Interesting Part of Cloud Computing: Fog Computing Enabling the Next Generation of the Internet of Things:

- *BAE Systems Tech Talk*, Burlington, MA, Sept. 2017.

In and Out of the Fog: Working with Industry to Define New Computing Architectures:

- *Princeton University* Postdoctoral Council Seminar Series, June 2017.

Towards Networking Commonplace Objects:

- *UC Santa Barbara* Department of Electrical and Computer Engineering, Mar. 2017.
- *Princeton University* Department of Electrical Engineering EDGE Lab, June 2016.
- *Carnegie Mellon University* Department of Electrical and Computer Engineering, June 2016.
- *Fujitsu Laboratories of America*, Sunnyvale, CA, May 2016.

Energy Harvesting Active Networked Tags for Ubiquitous Object Networking:

- *Imperial College London* Department of Electrical Engineering, July 2013.
- *Microsoft Research,* Seattle, WA, Mar. 2013.
- *Qualcomm,* Systems Engineering Group Seminar Series, San Diego, CA, Feb. 2013.
- *AT&T,* Technology Security Group, New York, NY, Jan. 2013.
- *IEEE Ottawa Signal Processing Society*, Ottawa, ON, Canada, Nov. 2012.
- *Walt Disney Research Zurich*, Zurich, Switzerland, Mar. 2012.
- *Defense R&D Canada,* Network Information Operations Group Seminar Series, Ottawa, ON, Canada, May 2011.
- *Telcordia Technologies Applied Research*, Piscataway, NJ, Dec. 2010.

Wormhole Attack Detection in Wireless Ad Hoc Networks:

- *University of British Columbia* Department of Electrical Engineering, Feb. 2007.

Panel Presentations & Lightning Talks

[SEC25] Looking Back and Moving Forward: 10 Years of Edge Computing, Washington, DC, Dec. 2025.

[ImmerCom24] Open research problems in XR, ACM ImmerCom (co-located with ACM MobiCom), Washington, DC, Nov. 2024.

[AWEXR24] AI + XR, AWE Nite NC Triangle XR Meetup, Durham, NC, Aug. 2024.

[IMM24] Edge and IoT-supported Augmented Reality, UIUC IMMERSE Seminar, Urbana, IL, Feb. 2024.

[FLI23] Duke Alumni Lifelong Learning: Big Questions – What is Real? Creating Alternative Realities at Duke University I^3T Lab, virtual, May 2023.

[WoWMoM20] AR/VR/XR over Wireless Networks: Challenges and Opportunities, IEEE WoWMoM, virtual, Sept. 2020.

[FWC17a] Fog to the Rescue: Restructuring Computing to Take Advantage of Fog, IEEE Fog World Congress (*IEEE FWC'17*), Santa Clara, CA, Nov. 2017.

[FWC17b] Elements of an Open, Interoperable Architecture in Fog, IEEE Fog World Congress (*IEEE FWC'17*), Santa Clara, CA, Oct. 2017.

[NYCMeetup17] Fog Computing and the Internet of Things, *IoT Central NYC Meetup,* New York City, NY, Apr. 2017.

Invited Lectures

[Duke19] Edge Computing: New Frontier in Distributed Systems and Networking, Duke University CS514 Computer Networks/Distributed Systems, Nov. 2019.

[Columbia13] Characterizing New Environmental Energy Sources for the Internet of Things, *Columbia University Undergraduate Computer Science and Statistics STATW100 Seminar*, New York, NY, Nov. 2013.

Podcasts

[SERadio18] On Edge Computing, *Software Engineering Radio Podcast*, Aug. 2018

[Embedded17] When Toasters Attack, *Embedded.fm Podcast*, Dec. 2017.

SELECTED MEDIA COVERAGE

External:

[NSF22] Simulated Human Eye Movement Aims to Train Metaverse Platforms, *NSF Discoveries*, March 2022, https://beta.nsf.gov/news/simulated-human-eye-movement-aims-train-metaverse

[MITHorizon21b] Edge Computing and Other Technologies: An Overview of Edge Computing's Impact on Other Technology Fields, *MIT Horizon*, Edge Computing Series, Dec. 2021

[MITHorizon21a] The Advantages and Opportunities of Edge Computing, *MIT Horizon*, Edge Computing Series, Nov. 2021

[NetworkWorld18] Augmented Reality, Fog, and Vision: Duke Professor Outlines the Importance of Smart Architectures, *Network World*, Oct. 2018
https://www.networkworld.com/article/966430/augmented-reality-fog-and-vision-duke-professor-outlines-importance-of-smart-architectures.html

[NewYorker17] If Donald Trump Were Actually a Battery, *The New Yorker*, May 2017
www.newyorker.com/tech/elements/if-donald-trump-were-actually-a-battery

[ECD17] OpenFog Reference Architecture: Baseline for Interoperability in the Industrial IoT Cloud-to-Things Continuum, *Embedded Computing Design*, March 2017
www.embedded-computing.com/embedded-computing-design/the-openfog-reference-architecture-a-baseline-for-interoperability-in-the-iiot-cloud-to-things-continuum

[MITTech14] The Internet of You, *MIT Technology Review Business Report*, May 2014
https://www.technologyreview.com/2014/05/20/172797/the-internet-of-you/

[MITTech13] Human Motions Will Power the Internet of Things, Say Energy Harvesting Engineers, *MIT Technology Review Physics ArXiv Blog*, July 2013
https://www.technologyreview.com/2013/07/11/https://maria.gorlatova.com/wp-content/uploads/2026/03/MGorlatova_CV_vFeb2026.pdf177399/human-motion-will-power-the-internet-of-things-say-energy-harvesting-engineers/

Duke University publications:

[DukePratt25] Transforming Reality: How Gaming Gear is Impacting Health Care, *Duke I/O Magazine*, Nov. 2025.

[DukeEyeCenter23] AR-assisted Guidance System for Retinal Laser Therapy, *Duke Eye Center VISION Magazine*, July 2023.

[DukeECE22] The Dawning of the Age of the Metaverse, *Duke ECE Magazine*, Oct. 2022, https://magazine.pratt.duke.edu/2022/the-dawning-of-the-age-of-the-metaverse **Duke ECE Magazine Cover Story**

[DukePratt20] Students Code Alternate Realities, *Duke Pratt School of Engineering*, Aug. 2020
https://pratt.duke.edu/about/news/students-code-alternate-realities