KUN WOO CHO

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EDUCATION

Princeton University — Princeton, NJ
Doctor of Philosophy (Ph.D.) in Computer Science — 2024
Master of Art (M.A.) in Computer Science — 2021

University at Buffalo, SUNY — Buffalo, NY
Bachelor of Science (B.S.) in Computer Science and Engineering, Summa Cum Laude — 2018

PROFESSIONAL EXPERIENCE

Rice University, Postdoctoral Researcher - Rice Wireless, Houston, TX — 01/2025 - present
Advisor: Dr. Ashu Sabharwal

Princeton University, Research Assistant - Princeton Wireless Lab, Princeton, NJ — 08/2018 - 11/2024
Advisor: Dr. Kyle Jamieson

Facebook, Ph.D. Research Intern - Facebook Connectivity Lab, Menlo Park, CA — 05/2021 - 08/2021
Manager: Dr. Brett Schein

University of Cambridge, Undergraduate Intern - NetOS Lab, Cambridge, UK — 06/2017 - 08/2017
Advisor: Dr. Cecilia Mascolo

University at Buffalo, Undergraduate Intern - ESC Lab, Buffalo, NY — 07/2015 - 05/2018
Advisor: Dr. Wenyao Xu

SELECTED PUBLICATIONS

C1. **Kun Woo Cho**, Marco Cominelli, Francesco Gringoli, Joerg Widmer, Kyle Jamieson, "Scalable Multi-modal Learning for Cross-Link Channel Prediction in Massive IoT Networks," In the *IEEE/ACM Transactions on Networking* **(IEEE/ACM ToN '25)**.

C2. **Kun Woo Cho**, Prasanthi Maddala, Ivan Seskar, Kyle Jamieson, "Demo: Metasurface-Enabled NextG mmWave for Roadside Networking," In the *30th Annual International Conference On Mobile Computing And Networking* **(ACM MobiCom '24)**.

C3. Fan Yi, **Kun Woo Cho**, Yaxiong Xie, Kyle Jamieson, "WaveFlex: A Smart Surface for Private CBRS Wireless Cellular Networks," In the *20th International Conference on emerging Networking EXperiments and Technologies* **(ACM CoNEXT '24)**.

C4. **Kun Woo Cho**, Mohammad H. Mazaheri, Jeremey Gummeson, Omid Abari, Kyle Jamieson. "mmWall: A Transflective Metamaterial Surface for mmWave Networks". In the *20th USENIX Symposium on Networked Systems Design and Implementation* **(USENIX NSDI '23)**. Acceptance rate: 15.9%.

C5. **Kun Woo Cho**, Marco Cominelli, Francesco Gringoli, Joerg Widmer, Kyle Jamieson. "Scalable Multi-modal Learning for Cross-Link Channel Prediction in Massive-IoT Networks". In the *24th International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Computing* **(ACM MobiHoc '23)**. Acceptance rate: 21.9%. ****Best Paper Award****

C6. **Kun Woo Cho**, Srikar Kasi, Kyle Jamieson. "A Low-Power OAM Metasurface for Rank-Deficient Wireless Environments", *In the IEEE Global Communications Conference* **(IEEE GLOBECOM '23)**.

C7. **Kun Woo Cho**, Yasaman Ghasempour, Kyle Jamieson. "Towards Dual-Band Reconfigurable Metasurfaces for Satellite Networking". In the *21st ACM Workshop on Hot Topics in Networks* **(ACM HotNets '22)**.

C8. **Kun Woo Cho**, Mohammad Hossein Mazaheri, Jeremy Gummeson, Omid Abari, Kyle Jamieson. "mmWall: A Reconfigurable Metamaterial Surface for mmWave Networks". In the *22nd ACM Workshop on Mobile Computing Systems and Applications* **(ACM HotMobile '21)**.

C9. Feng Lin, **Kun Woo Cho**, Chen Song, Wenyao Xu, Zhanpeng Jin, "Exploring a Brain-based Cancelable Biometrics for Smart Headwear: Concept, Implementation, and Evaluation", *IEEE Transactions on Mobile Computing* **(IEEE TMC '19)**.

C10. Feng Lin, **Kun Woo Cho**, Chen Song, Wenyao Xu, Zhanpeng Jin, "Brain Password: A Secure and Truly Cancelable Brain Biometrics for Smart Headwear". In the *16th ACM Annual International Conference on Mobile Systems, Applications, and Services* **(ACM MobiSys '18)**. Acceptance rate: 18.1%.

UNDER REVIEW

C11. **Kun Woo Cho**, Yaxiong Xie, Ashu Sabharwal, "A Low-Power mmWave Sensor System for Distributed Radar Perception."

C12. **Kun Woo Cho**, Prasanthi Maddala, Ivan Seskar, Kyle Jamieson, "Wall-Street: Smart Surface-Enabled 5G mmWave for Roadside Networking."

C13. Xuan Wang, Liyao Li, Runchuan Liu, **Kun Woo Cho**, Xiaojiang Chen, Yaxiong Xie, "A Smart Surface for Omnidirectional 3D Beam Steering."

HONORS AND AWARDS

Future Faculty Fellowship, Rice University 2025
NeTS Early Career Workshop, ACM SIGCOMM 2025
Siebel Scholarship, Thomas and Stacey Siebel Foundation 2024
80 graduate students selected worldwide in business, computer science and bioengineering
EECS Rising Stars, MIT 2024
Selective academic workshop in electrical engineering and computer science
Princeton SEAS Excellence Award, Princeton University 2023
4 graduate students selected department-wide
Best Paper Award, ACM MobiHoc 2023
1 paper selected out of 136
Princeton University Graduate Fellowship, Princeton University 2018
Dean's Undergraduate Achievement Award, University at Buffalo 2018
4 undergraduate students selected university-wide
CSE Departmental Award of Research, University at Buffalo 2018
2 undergraduate students selected department-wide
Grace Hopper Celebration (GHC) Scholarship, Apple 2017
Honors College Scholarship, University at Buffalo 2014-2018
International & Dean's Scholarship, University at Buffalo 2014-2018
Selective $40,000 merit-based award to incoming international students
Dean's List (all semesters), University at Buffalo 2014-2018
Travel Grant Awards: MobiSys '25, NSDI '23, IEEE ComSoc '23, HotNets '23, Princeton SEAS Travel Award

MEDIA COVERAGE

"**Siebel scholars foundation announces class of 2025**," Princeton News, Business Wire, NYT, WSJ 2024
"**Celebrating women's history month with stories of resilience and reinvention**,"Princeton News 2024
"**Surface steers signals for next-gen networks**," Princeton News, Tech Xplore 2023
"**Smartphone app for early autism detection developed by UB undergrad**," UB News, UPI, Wired 2016

GRANT EXPERIENCE

NSF VINES with Ashu Sabharwal, Onel López, Nakul Garg

- I contributed two thrusts, including six research tasks and relevant methodologies.

DARPA EMON with Ashok Veeraraghavan, Ashu Sabharwal, Christopher Metzler, Ramani Duraiswami, Nirupam Roy

- I contributed one thrust, including one research task and relevant methodology.

PATENT

P1. Provisional U.S. Patent Application, submitted July 11, 2025. "A Low-Power mmWave Sensor System for Distributed Radar Perception." Ashu Sabharwal, Kun Woo Cho, Yaxiong Xie.

P2. U.S. Patent No. 12,232,158, issued February 18, 2025. "Reconfigurable Metamaterial Surface for mmWave Networks." Kyle Jamieson, Kun Woo Cho, Mohammad H. Mazaheri, Jeremey Gummeson, Omid Abari.

P3. Provisional U.S. Patent Application 63/356,797 filed June 29, 2022. Dual-band Reconfigurable Metamaterial Surfaces for Satellite Networking. Kyle Jamieson, Kun Woo Cho, Yasaman Ghasempour.

INVITED TALKS

University of Maryland, College Park — Scheduled on Sept. 2025
"Programmable Radio Environments for Communication and Sensing" — Host: Christopher Metzler

University of California, Santa Barbara (UCSB), Virtual — Aug. 2025
"Programmable Radio Environments for Communication and Sensing" — Host: Yasamin Mostofi

Korea Advanced Institute of Science & Technology (KAIST) — Dec. 2024
"Programmable Radio Environments for Communication and Sensing" — Host: Sung-Ju Lee

Rutgers University (6G-XCEL Workshop) — Sept. 2024
"Metasurface-Enabled NextG mmWave for Roadside Networking" — Host: Ivan Seskar

Korea University — Sept. 2023
"Steerable and Transflective Metamaterial Surfaces for Wireless Communication" — Host: Donghun Lee

Kyungpook National University — Oct. 2023
"Multi-Modal Representation Learning for Wireless Communication" — Host: Jeeyoung Kim

TEACHING EXPERIENCES

COS597 Seminar on Advanced Topics in CS (guest lecturer), Princeton University — Spring 2024
COS461 Computer Networks, Princeton University — Fall 2020
COS IW Seminar on Mobile and Wearable Design, Princeton University — Fall 2021, Fall 2019
CSE379 Introduction to Microprocessor, University at Buffalo — Spring 2018
CSE113 Introduction to Computer Programming, University at Buffalo — Fall 2016, Spring 2017
CSE101 Computer a General Introduction, University at Buffalo — Fall 2016

STUDENT MENTORING

Yu-Cheng Hsiao (PhD students) — Rice University
Liyao Li (PhD student) — University at Buffalo
Fan Yi (PhD student, now Research Scientist at Meta) — Princeton University

PROFESSIONAL SERVICES

Journal Reviewer

IEEE Journal on Selected Areas in Communications (JSAC) — 2025
IEEE Transaction on Mobile Computing (TMC) — 2024
IEEE/ACM Transaction on Networking (ToN) — 2025, 2024
Nature Communications Engineering — 2025
IEEE Global Communications Conference (GLOBECOM) — 2025
ACM international joint conference on Pervasive and Ubiquitous Computing (UbiComp) — 2020
ACM Transactions on Computing for Healthcare (HEALTH) — 2019

Artifact Evaluation Committee

ACM SIGCOMM 2025, ACM MobiCom 2024

Panelist/Mentoring

N2Women workshops at ACM MobiSys 2025, ACM MobiHoc 2023

REFERENCES

Prof. Ashu Sabharwal — Rice University
Ernest Dell Butcher Professor — *ashu@rice.edu*

Prof. Kyle Jamieson — Princeton University
Professor — *kylej@cs.princeton.edu*

Prof. Ashok Veeraraghavan — Rice University
Professor — *vashok@rice.edu*

Prof. Omid Abari — University of California, Los Angeles (UCLA)
Associate Professor — *omid@cs.ucla.edu*

Prof. Yasaman Ghasempour — Princeton University
Assistant Professor — *ghasempour@princeton.edu*