HENRY SU WANG

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APPOINTMENTS

Princeton University, Electrical and Computer Engineering
Lecturer September 2025 - Present
Postdoctoral Research Associate January 2024 - Present
Advisors: Dr. Mung Chiang & Dr. H. Vincent Poor

EDUCATION

Purdue University, West Lafayette
Ph.D., Electrical and Computer Engineering August 2019 - December 2023
Advisor: Dr. Christopher G. Brinton

– Ph.D. thesis: "Network-aware Federated Learning Across Highly Heterogeneous Edge/Fog Networks"

B.S.E.E. *with Distinction*, Electrical and Computer Engineering August 2014 - December 2018

JOURNAL PUBLICATIONS

Bold font denotes my author location.

[J1] **S. Wang**, Y. Ruan, Y. Tu, S. Wagle, C. Brinton, C. Joe-Wong, "Network-Aware Optimization of Distributed Learning for Fog Computing", IEEE/ACM Transactions on Networking. May 2021.

[J2] **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. October 2022.

[J3] C. Zhang, **S. Wang**, V. Aggarwal, B. Peleato, "Coded Caching with Heterogeneous User Profiles", IEEE Transactions on Information Theory. June 2022.

[J4] S. Hosseinalipour, **S. Wang**, N. Michelusi, V. Aggarwal, C. Brinton, D. Love, M. Chiang, "Parallel Successive Learning for Online Distributed Model Training over Heterogeneous Wireless Networks", IEEE/ACM Transactions on Networking. September 2022.

[J5] **S. Wang**, S. Hosseinalipour, V. Aggarwal, C. Brinton, D. Love, W. Su, M. Chiang, "Towards Cooperative Federated Learning over Heterogeneous Edge/Fog Networks", IEEE Communications Magazine. April 2023.

[J6] S. Gesing, C. Stirm, G. Klimeck, L. Zentner, **S. Wang**, et al. "Hubzero: Community Engagement in Numbers for Four Science Gateways Supporting Open Science", Computing at Science and Engineering. May 2023.

[J7] **S. Wang**, S. Hosseinalipour, C. Brinton, "Multi-Source to Multi-Target Decentralized Federated Domain Adaptation", IEEE Transactions on Cognitive Communications and Networking. January 2024.

[J8] **S. Wang**, R. Morabito, S. Hosseinalipour, M. Chiang, C. Brinton, "Device Sampling and Resource Optimization for Federated Learning in Cooperative Edge Networks", IEEE/ACM Transactions on Networking. July 2024.

[J9] **S. Wang**, R. Sahay, A. Piaseczny, C. Brinton, "Mitigating Evasion Attacks in Federated Learning-Based Signal Classifiers", IEEE Transactions on Network Science and Engineering. May 2025.

[J10] L. Yuan, D. Han, **S. Wang**, D. Upadhyay, C. Brinton, "Communication-Efficient Multimodal Federated Learning: Joint Modality and Client Selection", IEEE Transactions on Mobile Computing. March 2026.

[J11] **S. Wang**, M. Chiang, H.V. Poor, "Optimizing Server Placement for Vertical Federated Learning in Dynamic Edge/Fog Networks", IEEE/ACM Transactions on Networking. June 2026.

[J12] S. Zeng, H. Zhang, **S. Wang**, B. Di, H. Zhang, D. Niyato, Z. Han, H.V. Poor, L. Song, "Holographic Beamforming for Semantic Communications", IEEE Transactions on Wireless Communications. June 2026.

CONFERENCE PUBLICATIONS

[C1] **S. Wang**, M. Lee, S. Hosseinalipour, R. Morabito, M. Chiang, C. Brinton, "Device Sampling for Heterogeneous Federated Learning: Theory, Algorithms, and Implementation", IEEE International Conference on Computer Communications (INFOCOM). May 2021. [19.9% acceptance rate.]

[C2] **S. Wang**, B. Peleato, "Coded Caching with Heterogeneous User Profiles", IEEE International Symposium on Information Theory (ISIT). July 2019.

[C3] M. Zelinski, N. Hicks, **S. Wang**, K. Douglas, P. Bermel, H. Diefes-Dux, K. Madhavan. "Instructor outcomes of teaching a STEM MOOC", In Frontiers in Education Conference (FIE). October 2017.

[C4] S. Gesing, C. Stirm, G. Klimeck, L. Zentner, **S. Wang**, et al. "Open Science via HUBzero: Exploring Five Science Gateways Supporting and Growing their Open Science Communities", In Hawaii International Conference on System Sciences (HICSS). January 2022.

[C5] **S. Wang**, R. Sahay, C. Brinton, "How Potent are Evasion Attacks for Poisoning Federated Learning-Based Signal Classifiers?, IEEE International Conference on Communications (ICC). May 2023.

PUBLICATIONS UNDER *REVISION*/REVIEW:

$\hat{\text{J}}$ denotes journal papers, and $\hat{\text{C}}$ denotes conference papers

[$\hat{\text{J}}$1] D.T.A. Nguyen, **S. Wang**, D.T. Nguyen, A. Nedić, H.V. Poor, "Decentralized Federated Learning with Gradient Tracking over Time-Varying Directed Networks", Under **Major *Revision*** at IEEE/ACM Transactions on Networking since *December 2025*.

[$\hat{\text{J}}$2] **S. Wang**, M. Chiang, H.V. Poor, "Towards Serverless Semi-Decentralized Federated Learning with Heterogeneous Optimizers", Under **Review** at IEEE Transactions on Networking since *June 2026*.

[$\hat{\text{C}}$1] E. Chen, S.Q. Wang, K. Chan, **S. Wang**, C. Brinton, H.V. Poor, "Routing Without Training: Budget-Controllable LLM Offloading via Reliability Gating", Under **Review** at IEEE International Conference on Computer Communications (INFOCOM) since *August 2026*.

WORKING PAPERS

$\tilde{\text{J}}$ denotes journal papers, $\tilde{\text{C}}$ denotes conference papers, * denotes direct mentee

[$\tilde{\text{J}}$1] S. Ha, **S. Wang**, C. Brinton, Y.S. Jeon, "Collaborative Split LLM Inference Across Large-Scale Distributed Edge Networks", To be submitted to IEEE Transactions on Mobile Computing.

[$\tilde{\text{J}}$2] S. Zeng, H. Zhang, B. Di, **S. Wang**, H. Zhang, Y. Gasempour, H. Zhu, H.V. Poor, L. Song, "Block Resilient Terahertz Integrated Sensing and Communication: An Airy Beamforming Approach", To be submitted to IEEE Transactions on Wireless Communications.

[J̃3] **S. Wang**, S. Zeng, B. Peleato, M. Chiang, H.V. Poor, "Robust Distributed Beamforming via Federated Algorithm Unrolling", To be submitted to IEEE Transactions on Wireless Communications.

[J̃4] Y. Wang, **S. Wang**, J. Wang, H.V. Poor, J. Song, "Explaining Data Valuation in Federated Learning", To be submitted to Proceedings of the National Academy of Sciences (PNAS) of the United States of America.

[C̃1] N. Novello, **S. Wang**, D. Gunduz, M. Chiang, H.V. Poor, A.M. Tonello, "Federated Unlearning for Text-to-Image Diffusion Models", To be submitted to International Conference on Learning Representations (ICLR).

[C̃2] N. Hu*, **S. Wang**, M. Chiang, H.V. Poor, "Coupled Noise Structures and Data Distributions in Federated Learning", To be submitted to International Conference on Learning Representations (ICLR).

[C̃3] D. Zhang*, H. Habib*, **S. Wang**, S. Zeng, M. Chiang, H.V. Poor, "Towards Large-Scale RF Fingerprinting: TinyML on Low-Cost, Mass-Market MCUs", To be submitted to IEEE International Conference on Communications (ICC).

[C̃4] E. K. Kwakye, **S. Wang**, M. Chiang, H.V. Poor, I. Bang, "Federated Generative Channel Estimation for 6G Cell-Free Massive MIMO", To be submitted to IEEE International Conference on Communications (ICC).

[C̃5] H. Alsaedi*, **S. Wang**, M. Chiang, H.V. Poor, "Unrolling Distributed Proximal Atomic Coordination for the AC Optimal Power Flow Problem", To be submitted to IEEE Power and Energy System General Meeting (PESGM).

HONORS AND AWARDS

Princeton Engineering Council - Excellence in Teaching Award `https://ecouncil.princeton.edu/teaching-awards/teaching-award-winners/`	Fall 2025
Semifinalist at 3MT Thesis Competition	March 2023
Travel Grant for ISIT 2019	July 2019
2x Eli Shay Scholarship in ECE	May 2018 & May 2017
Mortar Board Leadership Conference	January 2016
Arthur H. Tiechenor Jr Scholarship	August 2014

RESEARCH MENTORSHIP

Hasan Alsaedi, Nigel Hu, Devin Zhang, Hala Habib - Princeton Undergraduates	[2026-]
Evan Chen - Ph.D. Student at Purdue University	[2026-]
Yanzhi Wang - Ph.D. Student at Peking University	[2026-]
Nicola Novello - Ph.D. Student at University of Klagenfurt, Austria	[2026-]
(Ella) Duong Thuy Anh Nguyen - Ph.D. Student at Arizona State University	[2024-2026]
Adam Piaseczny - Purdue Undergraduate/Ph.D. Student	[2022-2025]

TEACHING EXPERIENCE

EGR 153, Princeton University 2026
Foundations of Engineering: Electricity, Magnetism, and Photonics
Lecturer *Princeton, NJ, USA*

EGR 151, Princeton University 2025
Foundations of Engineering: Mechanics, Energy, and Waves
Lecturer *Princeton, NJ, USA*

Introduction to Data Science I and II, Purdue University 2023
Teaching Assistant *Online*

Independent Study, ISTC 2022-2023, 2024-2025
Expert Mentor *Online*

ECE 49022/477; ECE Senior Design, Purdue University 2019-2020
General Teaching Assistant *West Lafayette, IN, USA*

ENGR 131/132, Purdue University 2015-2016
Teaching Assistant *West Lafayette, IN, USA*

INVITED AND CONTRIBUTED TALKS

Invited Talks

- "Network-Aware Federated Learning: Fundamentals and Emergent Topics", Invited Talk, EURECOM, Sophia-Antipolis, France. February 2026. `https://www.eurecom.fr/en/seminar/142544`
- "Network-Aware Federated Learning: Fundamentals and Emergent Topics", Invited Talk, Universidad Carlos III de Madrid, Leganes, Spain. January 2026. `https://gts.tsc.uc3m.es/gts-seminars/`
- "Network-Aware Federated Learning: Fundamentals and Emergent Topics", ICT Research Center for 6G Wireless Standardization - Joint Workshop on 6G Wireless Communications, Princeton University, Princeton NJ. February 2026.

Contributed Talks

- "Emergent Forms of Heterogeneity at the Intersection of Federated Learning and Edge/Fog Networks", NextG Seminar Series, Princeton University, Princeton, NJ. December 2025.
- "Multi-source to Multi-target Decentralized Federated Domain Adaptation", ML Reading Group, Purdue University, West Lafayette, IN. October 2023.
- "Device Sampling for Heterogeneous Federated Learning: Theory, Algorithms, and Implementation", IEEE INFOCOM, Toronto, Canada (Virtual). May 2021.
- "Coded caching with heterogeneous user profiles", IEEE ISIT, Paris, France. July 2019 .

Posters

- "Serverless Semi-Decentralized Federated Learning with Heterogeneous Optimizers", Princeton NextG Symposium, April 2026.
- "Optimizing Server Placement for Vertical Federated Learning in Dynamic Edge/Fog Networks", Princeton NextG Symposium, April 2025.
- "Envisioning Multi-Source to Multi-Target Federated Domain Adaptation for Naval Defense Scenario", Workshop for Naval Applications of Machine Learning (NAML), February 2024.

ACADEMIC AND PROFESSIONAL SERVICE

Technical Program Committee

- IEEE Globecom *2026*
- ACM MobiSys Workshop on Networked AI Systems *2024, 2025, 2026*

Session Chair

- Conference on Information Sciences and Systems (CISS); Control and Prediction *2024*

Peer Reviewer

- Magazines: IEEE Communications Magazine, IEEE Wireless Communications Magazine, IEEE Internet-of-Things Magazine
- IEEE Transactions & Equivalents: TON, TSP, JSAC, TMC, TWC, TCOM, TNSE, TNSM, TGCN, TMLCN, TKDD, TCOMP
- Top Conferences: INFOCOM, SIGMETRICS, NeurIPS, ICML, ICLR, MOBIHOC, AAAI, AISTATS
- Flagship Conferences: ISIT, ICC, GLOBECOM
- Other Journals and Conferences: JATS, IOTJ

PROFESSIONAL AND HONORARY SOCIETY AFFILIATIONS

IEEE

- Member 2024-Present
- Student Member 2017-2023

ACM

- Member 2024-Present

Tau Beta Pi (Indiana Alpha Chapter) 2016-Present

Eta Kappa Nu (Beta Chapter) 2017-Present

NON-RESEARCH MENTORSHIP

D. Shang, C. Lin - Purdue Undergraduates [2020-2021]

M. Menninga - John Hersey High School [2022-2023]

N. Villarin, L. Regalado, C. Polly, J. Patel, L. Gonzalez, M. Mortensen, J. Chung, I. Catena
Bartlett STEM Academy [2022-2023]

J. Sharma, H. Vassar - Woodstock High School [2024-2025]

R. Chien, J. Cintora, L. Sevilla, M. Shah, R. Jacob, J. Cioch, J. Figueroa, M. Magnanao, O. Valdez
Bartlett STEM Academy [2024-2025]

K. Mendez, J. Morales, G. Ortiz-Cardoso, C. Gutierrez, J. Mora
Cristo Rey Jesuit High School [2024-2025]