Chen Peng

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EDUCATION

University of Southern California (USC), Los Angeles, CA, USA
Ph.D. in Electrical Engineering *Sept. 2020 - May 2026 (exp.)*
GPA: 3.94 / 4.0

Shanghai Jiao Tong University (SJTU), Shanghai, China
B. Eng. in Electrical and Computer Engineering *Sept. 2016 - Jun. 2020*
GPA: 3.72 / 4.0

RESEARCH INTERESTS

Causal Discovery, Reinforcement Learning, Wireless Networks

PUBLICATIONS

Journals

[J3] C. Peng, D. Zhang, and U. Mitra, "Asymmetric graph error control with low complexity in causal bandits," *IEEE Transactions on Signal Processing*, 2025.

[J2] C. Peng and U. Mitra, "Interference-constrained scheduling of a cognitive multihop underwater acoustic network," *IEEE Journal of Oceanic Engineering*, vol. 49, no. 2, pp. 507–521, 2024. DOI: 10.1109/JOE.2023.3336462.

[J1] C. Peng and U. Mitra, "Planning versus learning: Fair space-time scheduling for unwired networks," *IEEE Transactions on Wireless Communications*, vol. 23, no. 11, pp. 16 621–16 634, 2024. DOI: 10.1109/TWC.2024.3444693.

Conferences

[C5] C. Peng and U. Mitra, "Causal graph identification under soft intervention," in *2025 IEEE International Symposium on Information Theory (ISIT)*, IEEE, 2025.

[C4] C. Peng and U. Mitra, "Re-planning versus learning: Fair scheduling for underwater acoustic networks under model shift," in *2024 58th Asilomar Conference on Signals, Systems, and Computers*, IEEE, 2024, pp. 131–136.

[C3] C. Peng, D. Zhang, and U. Mitra, "Graph identification and upper confidence evaluation for causal bandits with linear models," in *ICASSP 2024-2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, IEEE, 2024, pp. 7165–7169.

[C2] C. Peng and U. Mitra, "Sampling-based linear approximate planning for underwater space-time fair scheduling," in *2023 57th Asilomar Conference on Signals, Systems, and Computers*, IEEE, 2023, pp. 253–259.

[C1] C. Peng and U. Mitra, "Decentralized scheduling of a cognitive multihop underwater acoustic network with interference constraint," in *Proceedings of the 16th International Conference on Underwater Networks & Systems*, 2022, pp. 1–8.

PROJECTS

University of Southern California, Advisor: ***Prof. Urbashi Mitra*** *Sept. 2020 - Present*

- Sequential decision-making for cognitive medium access in underwater acoustic networks.
- Space-time fair scheduling of wireless networks via approximate planning.
- Low complexity causal graph identification and uncertainty evaluation for causal bandits.
- Efficient causal discovery enabled by soft intervention.

EXPERIENCES

Graduate Research Assistant
University of Southern California *Sept. 2020 - Present*

Graduate Teaching Assistant
University of Southern California *Jan. 2023 - May 2023*

- EE565 Information Theory and Compression (Graduate, 2023 Spring)

ACADEMIC SERVICES

- Reviewer
  - IEEE Journal of Oceanic Engineering
- Graduate Student Member, IEEE.

PROFESSIONAL SKILLS

- Computer languages and tools: `Python (numpy, pytorch)`, `C/C++`, `MATLAB`; `ns-3`, `GNURadio`, `USRP (UHD)`.
- Theory: machine learning and deep learning, causal inference, information theory, digital signal processing, wireless communications.

SCHOLARSHIP AND HONORS

- National Scholarship - Ministry of Education of P.R.China *Nov. 2017*
- Outstanding Poster Award - Dept. of Electrical & Computer Engineering, USC *Nov. 2023*
- Student Paper Contest Finalist - Asilomar SSC Conference *Oct. 2024*