Jingxing Wang

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Education

University of Washington Seattle, WA
Ph.D., Electrical and Computer Engineering; GPA: 3.98 *2025 – 2030 (expected)*
Advisors: Maryam Fazel and Vasileios Charisopoulos

University of California, Berkeley Berkeley, CA
B.A., Computer Science; B.A., Applied Mathematics; GPA: 3.86 *2021 – 2025*
Advisors: Kannan Ramchandran and Chiwei Yan

Publications and Submissions

In submission **Torus RoPE: Bridging Seamless Tile Generation to Diffusion Transformers**
Runjia Li, Ally Du, **Jingxing Wang**, Vasileios Charisopoulos, Maryam Fazel, Simon Du

NeurIPS 2026 **Local linear convergence of gradient methods for overparameterized Gaussian mixtures**
Jingxing Wang, Vasileios Charisopoulos, Maryam Fazel [paper]
Talk presented at the IFDS Weekly Seminar, University of Washington (Nov. 6, 2026).
Poster presented at IFDS Research Expo and UW–Amazon Science Hub Robotics Showcase (2026).

Operations Research **A dynamic model for airline fleeting and scheduling**
Chiwei Yan, **Jingxing Wang**, Archis Ghate [paper]
Talk presented at the 2025 INFORMS Annual Meeting.

Research Experience

University of Washington, *Graduate Researcher* *2025 – Present*

- Developed faster algorithms for fitting overparameterized Gaussian models, identifying causes of slow convergence, proving convergence guarantees, and validating speedups against standard methods in numerical experiments.
- Developed LLM-assisted modeling prototypes for industrial scheduling and chemical processes, designing constraint checks and interfaces for domain expert review; collaborating with Amazon to adapt the method to papermaking.
- Lead a team of master's and undergraduate students in collaboration with Amazon, developing robot fleet coordination methods to reduce congestion and improve throughput in its warehouses.
- Organized a reading group on continuous and discrete diffusion models, leading to a method that adapts pretrained diffusion transformers to seamless tile generation without retraining or additional inference cost.

University of California, Berkeley, Department of IEOR, *Researcher* *2024 – 2026*

- Proved performance guarantees for representative airline networks through linear and integer programming analysis; developed tighter information-relaxation upper bounds to quantify optimality gaps.
- Implemented the core experimental pipeline for a major U.S. carrier's nationwide network of 997 flights and 117 airports, demonstrating up to 4.3% higher simulated profit than a reoptimized static policy.

Berkeley Laboratory for Information and System Sciences (BLISS), *Researcher* *2023 – 2025*

- Automated noise estimation and parameter tuning for a Fourier-analysis tool that extracts dominant frequency components from noisy data, reducing manual configuration for non-expert users.
- Developed a theoretical framework combining sparse Fourier analysis and Shapley values to interpret vision transformers and incorporate human feedback into classifier training.

Awards and Other Experience

Rushmer Electrical Engineering Endowment Fellowship 2025
Southeast Individual Champion, AMATYC Student Mathematics League 2020

Kesem at UC Berkeley, *Camp counselor and unit leader; 3 camps for children affected by a parent's cancer* *2022 – 2025*
The Daily Californian, *News reporter; 15+ articles on city government and transit, plus 5+ columns* *2023 – 2024*
Teaching and Mentoring, *UC Berkeley: CS 70 Mentor; Probability and Upper-Division Math Grader* *2022 – 2024*

Technical Skills

Python, Java, MATLAB; PyTorch, NumPy, pandas, scikit-learn; Gurobi.