FENGJUN YANG

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ABOUT

Second-year Ph.D. student in machine learning, control theory, and robotics. Experienced with analyzing and improving the robustness and scalability of both classical and learning-based controllers. Passionate about both theoretical and engineering problems in real-world robotics applications.

EDUCATION

University of Pennsylvania, Philadelphia, PA *Sept. 2020 - Now*
Ph.D. Student in Computer and Information Science

Stanford University, Stanford, CA *Sept. 2018 - Jun. 2020*
M.Sc. in Aeronautical and Astronautical Engineering

Swarthmore College, Swarthmore, PA *Sept. 2014 - May 2018*
B.A. in Computer Science

EXPERIENCE

GRASP Laboratory, University of Pennsylvania *2020–Present*
PhD Student, working with Prof. Nikolai Matni *Philadelphia, PA*

- Developed and implemented algorithms for synthesizing distributed controllers in large-scale networked systems using tools from deep learning and behavioral control.

Autonomous Systems Laboratory, Stanford University *2019–2020*
Research Assistant, working with Prof. Marco Pavone *Stanford, CA*

- Worked on planning and routing for robot taxi fleets using reinforcement learning and model-predictive control. Also developed a pruning algorithm that sparsify road networks based on travel demands to enable efficient congestion-aware routing.

Multi-robot System Laboratory, Stanford University *2020*
Research Assistant, working with Prof. Mac Schwager and Dr. Negar Mehr *Stanford, CA*

- Developed an algorithm for role allocation in multi-robot teams using empirical game-theoretic analysis, and evaluated the algorithm on a collaborative transport task in simulation.

AWARDS AND HONORS

Stanford University Graduate Engineering Fellowship ($110,000) *2018-2020*
Phi Beta Kappa, *Sigma Xi*, Swarthmore College *2018*
University of Tokyo Summer Research Fellowship (30 out of ∼1200 applicants) *2016*

PUBLICATION

Fengjun Yang and Nikolai Matni. *Communication Topology Co-Design in Graph Recurrent Neural Network based Distributed Control*, IEEE Conference on Decision and Control (CDC), 2021
Bryce Wiedenbeck, **Fengjun Yang**, and Michael Wellman. *A Regression Approach for Modeling Games with Many Symmetric Players*, in the Thirty-Second AAAI Conference on Artificial Intelligence, 2018

COURSEWORK AND SKILLS

Coursework: Mobile Robotics, Optimal Control, Model Predictive Control, Convex Optimization, Probability Theory, Computer Vision, Machine Learning, Reinforcement Learning, Multi-robot control
Skills: Python (Pytorch, Tensorflow, Cvxpy, Scikit-Learn), C, C++, Matlab, OCAML