

Shushman Choudhury

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INTERESTS

Artificial Intelligence for Transportation and Logistics; Multi-Agent Optimization and Decision-Making

EXPERIENCE

LACUNA TECHNOLOGIES, INC. | RESEARCH SCIENTIST

Jul 2021 - Ongoing | Palo Alto, CA

- Cutting-edge decision-making for transportation problems, in partnership with US cities and airport, e.g., first-of-its-kind open source intervention analysis for Seattle-Tacoma Airport.

STANFORD INTELLIGENT SYSTEMS LABORATORY (SISL) | RESEARCH ASSISTANT

Sep 2017 - Jun 2021 | Stanford, CA

- Hierarchical allocation, routing, and control algorithms for large multi-robot networks.
- Work on drone-transit routing featured in VentureBeat, BBC Digital Planet, and IEEE Spectrum (among others)

MICROSOFT RESEARCH REDMOND (MSR) | AI PHD INTERN

Summer 2020 | Remote

- Multi-task deep reinforcement learning by computing and adapting shared representations.

CMU PERSONAL ROBOTICS LAB | RESEARCH ASSISTANT

Aug 2015 - Aug 2017 | Pittsburgh, PA

- Efficient anytime motion planning for robot manipulation, validated on the robot HERB.

STANFORD LAW SCHOOL | TECH POLICY LAB MEMBER

Sep 2018 - Apr 2019 | Stanford, CA

- Advised INTERPOL [Article], the Administrative Conference of the United States [Report], and the US federal government task force on the National Research Cloud [Article].

EDUCATION

STANFORD UNIVERSITY | PH.D. IN COMPUTER SCIENCE | SEP 2017 - JUNE 2021

Advisors - Mykel Kochenderfer and Jeannette Bohg

School of Engineering Graduate Fellowship 2017-18 | VMWare Graduate Fellowship 2020-21

CARNEGIE MELLON UNIVERSITY | M.S. IN ROBOTICS | AUG 2015 - AUG 2017

Advisor - Siddhartha Srinivasa • GPA: 4.00

IIT KHARAGPUR | B.TECH. IN COMPUTER SCIENCE | JUL 2011 - MAY 2015

Advisor - Partha Pratim Chakrabarti • GPA: 9.47/10

SELECTED PUBLICATIONS

Estimating Driver Response Rates to Variable Message Signage at Seattle-Tacoma International Airport S. Vasisht, S. Choudhury, N. Nazir, S. Zoepf, and C. Dowling. Transport Findings 2022

Coordinated Multi-Agent Pathfinding for Drones and Trucks over Road Networks S. Choudhury, K. Solovey, M. J. Kochenderfer, and M. Pavone. International Conference on Autonomous Agents and Multi-Agent Systems 2022

Scalable Anytime Planning for Multi-Agent MDPs S. Choudhury, J. K. Gupta, P. Morales, and M. J. Kochenderfer. Autonomous Agents and Multi-Agent Systems (AAMAS) 2021. **Best Paper** Journal of Artificial Intelligence Research (JAIR) 2022

Efficient Large Scale Multi-Drone Delivery Using Transit Networks S. Choudhury, K. Solovey, M. J. Kochenderfer, and M. Pavone. IEEE ICRA 2020 **Best Multi-Robot Paper Finalist** Journal of Artificial Intelligence Research (JAIR) 2021

Dynamic Multi-Robot Task Allocation under Uncertainty and Temporal Constraints S. Choudhury, J. K. Gupta, M. J. Kochenderfer, D. Sadigh, and J. Bohg. Robotics Science and Systems (RSS) 2020. Springer Autonomous Robots (AuRO) 2022

LANGUAGES AND LIBRARIES

• Julia • C++ • Python • PyMC • POMDPs.jl • Pytorch