Shushman Choudhury

Github | Website | Scholar | LinkedIn
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INTERESTS

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

EXPERIENCE

LACUNA TECHNOLOGIES, INC. | Lead Research Scientist
Jul 2021 - Ongoing | Palo Alto, CA

- Intelligent decision-making for transportation and logistics problems, in partnership with US cities and airports.
- Lead of the in-house research team, which also has expertise in Machine Learning Engineering and geospatial data science.

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 goverment 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