

Shushman Choudhury

Github | Website | Scholar | LinkedIn
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INTERESTS

Multi-Agent Decision-Making; Intelligent Transportation Systems; Digital Policy

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

EXPERIENCE

STANFORD INTELLIGENT SYSTEMS LABORATORY (SISL) | RESEARCH ASSISTANT

Jan 2018 - Ongoing | Stanford, CA

- Hierarchical allocation, route planning, 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].

SELECTED PUBLICATIONS

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**

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

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

Dynamic Real-time Multimodal Routing with Hierarchical Hybrid Planning S. Choudhury, J. P. Knickerbocker, and M. J. Kochenderfer. IEEE Intelligent Vehicles (IV) 2019

Pareto-Optimal Search over Configuration Space Beliefs for Anytime Motion Planning S. Choudhury, C. M. Dellin, and S. S. Srinivasa. IEEE Intelligent Robots and Systems (IROS) 2016.

LANGUAGES AND LIBRARIES

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

SELECTED OUTREACH

STANFORD IGNITE PROGRAM 2018 | STUDENT MENTOR

Helped develop a curated set of robotics-inspired math exercises for Sequoia High School, Redwood City.

ENGINEERS FOR A SUSTAINABLE WORLD | CONTENT COORDINATOR

Co-authored a Springer Book article on the role of STEAM education in a sustainable world.