Sayan Mondal

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in 6sayan1

Education

- **Carnegie Mellon University, Robotics Institute** — Sept 2022 - present
  Master of Science in Robotics — 4.10/4.00 GPA
- **Carnegie Mellon University** — Sept 2020 - May 2022
  Master of Science in Biomedical Engineering — 3.88/4.00 GPA
- **University of California San Diego** — Sept 2017 - April 2020
  Master of Science in Engineering Sciences (Mechanical Engineering) — 3.67/4.00 GPA
- **Jadavpur University, Kolkata, India** — May 2012 - June 2016
  Bachelor of Engineering in Mechanical Engineering — 8.00/10.00 GPA

Research Experience

Graduate Research Assistant, *Robotic Exploration Lab, CMU* — May'23 - present
- Implementing agile skills for quadrupedal robots using Deep Reinforcement Learning and a planner across these skills for executing long-horizon tasks.

Graduate Research Assistant, *Biorobotics Lab, CMU* — May'21 - May'22
- Developed a robust camera-based perception system that detects, and tracks pieces of garbage as they move through a facility on a conveyor belt.
- Built a sequential model classifier for recognition of moving objects on a conveyor belt, so that it takes into consideration both the spatial as well as the temporal components while making predictions. As a result, obtained more stable and accurate classification results.

Masters' thesis, *Gravish lab, UC San Diego* — Sept'18 - June'20
- Built a novel underactuated micro-gripper that facilitates mobile micro-robots in performing pick and place tasks. Developed a closed-chain linkage mechanism that allows the gripper to bend down and grasp objects simultaneously. Performed the kinematic and static analysis of the gripper.

Work Experience

2021 RISS (Robotics Institute Summer Scholars) Mentor, *CMU* — May-August 2021

Teaching Assistant and Reader, *University of California, San Diego*
- *TA and Reader* for MAE 150 - Computer-Aided Analysis and Design — Sept-Dec'19, March-June'19
- *Reader* for MAE 143A - Signals and Systems — Jan-March'19, Sept-Dec'19
- *TA* for MAE/ECE 148 - Introduction to Autonomous Vehicles — Aug-Sept'18, Sept-Dec'18, Aug-Sept'19
- *Cluster-11 Teaching Assistant* for COSMOSUCSD (California State Summer School for Mathematics and Science) program. — July-Aug'19
- *Reader* for MAE 143B - Linear Control — March-June'18, March-June'19
- *TA* for MAE 131B - Fundamentals of Solid Mechanics II — March-June'18

Publications

1. Anwesan Pal, **Sayan Mondal**, Henrik I. Christensen,**"Looking at the right stuff"- Guided semantic-gaze for autonomous driving**, *IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2020.*
2. **Sayan Mondal**, **"Design and analysis of a kirigami-based two-finger microgripper"**, *Masters' thesis, 2020.*

Graduate Courses (so far)

- **CMU** - Introduction to Deep Learning | Planning and Decision-making in Robotics | Introduction to Robot Learning | Learning for 3D vision | Optimal Control and Reinforcement Learning | Computer Vision | Math Fundamentals for Robotics | Underactuated Robots | Neural Data Analysis | Biomechanics of Human Movement | Advanced System Neuroscience | Mobile Robots | Introduction to Machine Learning for Biomedical Engineers | Deep Reinforcement Learning and Control | Bioinstrumentation
- **UCSD** - Mathematics for Engineers | Continuum Mechanics Applied to Medical/Biology | Linear Systems Theory |

Parametric Identification | Soft Robotics | Linear Control Design | Nonlinear Systems | Robot Reinforcement Learning | Cooperative Control/ Multi-Agent System | Computer Vision-I | Machine Learning and Image Processing