Shashwata Mandal

shashwata275@gmail.com | 717-379-8394 | Ames, Iowa

EDUCATION

IOWA STATE UNIVERSITY
PHD IN COMPUTER SCIENCE | GPA 3.71 | 2019 - 2024(EXPECTED)

PENN STATE UNIVERSITY
MS IN COMPUTER SCIENCE | GPA 3.47 | 2017-2019

WEST BENGAL UNIVERSITY OF TECHNOLOGY
BTECH IN COMPUTER SCIENCE AND ENGINEERING | GPA 3.41 | 2012-2016

SKILLS

PROGRAMMING
Java • C • C++ • Python • Arduino

OTHERS
IoT • AWS • Robotics(Localization) • ROS • Machine Learning • Artificial Intelligence • Control Systems

COURSEWORK

Advanced Algorithms
Computational Geometry
Artificial Intelligence
Computer Graphics
Mathematics for Robotics

PRIMARY INTEREST

Robotics • Algorithms • Self-Driving Cars

OTHER INTERESTS

Competitive programming • System Design and Architecture

CERTIFICATIONS

Self-Driving Cars (Udacity) • Machine Learning (Udacity)

LINKS

Github:// **smoke275**
LinkedIn:// **shashwata-mandal**

WORK EXPERIENCE

NOMURA RESEARCH INSTITUTE FINANCIAL TECHNOLOGIES LTD. | ASSOCIATE SOFTWARE ENGINEER
Aug 2016 – Aug 2017 | Kolkata | Tags - Java, Spring, JQuery, Git, Agile

- Developed approximately 20/180 web pages on a project for NAM.
- Voluntary Responsibilities - a team release, setting up Git for the project, fixing JavaScript frameworks bugs to save time.

DISTRONIX | LEAD DEVELOPER - JAVA | PART TIME
Jan 2016 – July 2016 | Kolkata | Tags - Java, IoT, TCP, Live Deployment

- Designed and developed Live Bus monitoring system for Mumbai transportation sector (now operational).

RESEARCH/PROJECTS

REINFORCEMENT LEARNING BASED PURSUIT IN POLYGONAL ENVIRONMENTS | Simulation, ML | Python
March 2023 – Current

- Corner-Aware-Tracking reward function for tracking an intruder
- Implemented tracking of an intruder for a single corner environment

RELAY PURSUIT FOR MULTIROBOT TARGET TRACKING ON TILE GRAPHS | Drones, Simulation, ML | Python | Accepted for ICRA'23
July 2020 – Current

- Planning and control for the minimum tracking speed for a pursuer in an evader-pursuer problem without losing vision using tiles.
- Implementated in custom simulation environment for evaluation using Python

SELF DRIVING CARS SIMULATION
| Reinforcement Learning | Python | COMS 673
Jan 2021 – May 2021

- Implemented a self driving car using TD-Learning on Gym(Python)

MULTIPLE TARGET TRACKING FOR DRONE SWARMS
| Drones, Outdoor Deployment | Python | IROS 2021
September 2020 – May 2021

- Developed and deployed a framework to track targets on minimum-time trajectory

PAPER | Planning for Aerial Robot Teams for Wide-Area Biometric and Phenotypic Data Collection

PAPARAZZI ROUTE FOR TARGET TRACKING USING RRT
| RRT, Watchman's Route | Python | IROS 2021
August 2020 – May 2021

- Implemented and deployed algorithm for generating a paparazzi route for minimum speed tracking

PAPER | Roadmap for Visibility-Based Target Tracking: Iterative Construction and Motion Strategy

SWARM CONTROL AND VIDEO STREAMING USING AD-HOC NETWORK | Ad-hoc network protocols, Embedded C, Micro IP
December 2015 - May 2016

- Controlled a robot swarm using a wireless ad-hoc network on nRF24L01+ via µTCP stack. Sent Live feed back over the network.