Ashay Athalye

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Education

Massachusetts Institute of Technology, *Cambridge, MA* 2016 – 2021
Double Major: EECS and Economics; Minor: Mechanical Engineering, GPA: 4.7/5.0
Coursework includes: Circuits & Electronics, Signal Processing, Thermo-Fluids Engineering, Mechanics & Materials, Design & Manufacturing, Dynamics and Control, Real Analysis, Machine Learning, Algorithms for Inference, Statistics, Econometrics

Worcester Polytechnic Institute, *Worcester, MA* 2015 – 2016
Dual Enrollment (High School), GPA: 4.0/4.0, Named to Dean's List
Coursework includes: Systems Programming, Machine Organization and Assembly Language, Operating Systems

Work Experience

Microsoft Research, Economics Group, Research intern January 2020
Automated Learning and Intelligence for Causation and Economics
- Implemented monte carlo simulation framework for evaluation of inference methods; researched proper evaluation strategies for causal inference methods at the intersection of machine learning and econometrics

GM Cruise, Controls Simulation Team, Software intern Summer 2019
- Designed and implemented FMI-based simulation framework; designed and implemented road model framework for path follower testing and vehicle dynamics simulation; derived and tuned vehicle dynamics models

Raytheon BBN, Space and Airborne Systems, Software/Hardware Intern Summer 2018
Command and Control of Autonomous Swarm Robots (DARPA OFFSET)
- Designed and implemented swarm algorithms for distributed sensor fusion, SLAM, and obstacle avoidance; designed mounting system for lidars and cameras onto rovers and drones; project manager for rover engineering objectives

NASA JPL, Computer Vision Group, Software Intern January 2018
Robotic Task-oriented Grasping of Novel Objects
- Implemented training set generation pipeline for supervised deep learning (Blender, Gazebo, ROS)

Research Experience

Computer-aided Programming Lab, *Economics*, Undergraduate researcher 2020 - 2021
Causal and Probabilistic Programming for Political Economy Modeling
- Derived and extended economic models; implemented models in probabilistic programming framework involving model-based reinforcement learning

Behavioral Economics Lab, MIT, *Economics*, Undergraduate researcher 2020 - 2021
Discrimination and Revelation of Mental Illness
- Programmed website for randomized control trial; analyzed data and contributed to experimental design

Manipulation and Mechanisms Lab, MIT, *EECS*, Undergraduate researcher 2019 – 2020
Sensor Fusion of Visual and Tactile Sensory Data for Object Localization and Robotic Manipulation
- Designed and implemented filtering techniques for deep object pose estimation for household objects

Distributed Robotics Lab, MIT , *EECS*, Undergraduate researcher 2017 – 2018
Ubiquitous Precision WiFi-based Indoor Localization (embedded systems)
- Designed and implemented real-time sensor data streaming system under real-time constraints

Hatton Lab, MIT, *Chemical Engineering*, High school internship 2015 – 2016
A Novel Modular System for Automobile CO_2 Sequestration
- Ideated, designed, and modeled onboard capture agent, desorption unit, and offsite photobioreactor

Alterovitz Lab, MIT/Harvard, *Computational Biology*, High school internship 2014 – 2015
Characterization and Prediction of Intrinsically Disordered Protein Interactions
- Implemented ML algorithms for cancer gene BRCA1 study and drug development

Teaching Experience

Teaching Assistant for MIT 6.041, Probabilistic Systems Analysis Fall 2020
- Taught recitations; wrote problems and solutions

Leadership and Community Service

Gordon-MIT Engineering Leadership Program, (*gelp.mit.edu*) , Participating Student 2018 – 2019

The Gift of Education (nonprofit), (*giftofeducation.org*) , Founder and Pianist 2011 – 2016