Ashay Athalye

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Education

Massachusetts Institute of Technology, *Cambridge, MA* 2016 – 2022
S.B. in EECS and Economics (double major), minor in Mechanical Engineering (2021), GPA: 4.7/5.0
M.Eng. Candidate (December 2022), GPA: 5.0/5.0

Coursework includes (**G** for graduate-level):

- *Math*: Differential Equations (18.03), Linear Algebra (18.06), Probability (6.041), Real Analysis (18.100B), Statistics (18.655) [**G**]
- *EECS*: Circuits & Electronics (6.002), Signal Processing (6.003, 6.011), Computer Systems Engineering (6.033), Algorithms (6.006), Feedback Control Systems (2.004, 16.30)
- *AI/ML/Inference*: Artificial Intelligence (6.034), Machine Learning (6.036, 6.867) [**G**], Reinforcement Learning (6.884) [**G**], Bayesian Modeling and Algorithms for Inference (6.435, 6.437, 6.438) [**G**], Robotic Planning (16.420) [**G**]
- *Economics*: Microeconomics I-IV (14.121-14.124) [**G**], Econometrics I, II (14.380-14.382) [**G**], Labor Economics I, II (14.661-14.662) [**G**], Market Design (14.19), Behavioral Economics (14.13), Developmental Economics (14.74), Public Economics (14.41)

Work Experience

MIT OpenCourseWare (OCW), Program Manager 2021-Present

- Ideated, developed, and managed a new program to hire students for content collection across all departments, bridging crucial gaps in OCW's course offerings and in learning materials within existing courses
- Hired and managed 5 employees
- Developed methods to adapt course materials designed for MIT students to OCW's broader user base
- Designed and ran surveys that showed the effectiveness of newly created learning materials for the target audience
- Developed new A/V production techniques that reduced costs by $10,000 per course
- Programmed tools for administrative tasks and A/V production
- Synced disjoint teams that were separately solving similar problems to align their objectives and save over $300,000 in unsuitable infrastructure investments

Waymo, Behavior Prediction Team, Software Engineering Intern Summer 2021

- Designed and implemented deep learning models that improved the accuracy and latency of behavior predictions

Microsoft Research, Economics Group, Research Intern January 2020

- Implemented Monte Carlo framework for evaluating new ML-based econometric causal inference methods

GM Cruise, Controls Simulation Team, Software Engineering Intern Summer 2019

- Designed and implemented road model framework for path follower testing and vehicle dynamics simulation; tuned vehicle dynamics models; implemented FMI-based simulation framework

Raytheon BBN, Space and Airborne Systems, Research Intern Summer 2018

- Designed and implemented swarm algorithms for cooperative multi-agent SLAM; designed mounting system for lidars and cameras onto rovers and drones; project manager for rover engineering objectives

NASA JPL, Computer Vision Group, Software Engineering Intern January 2018

- Implemented pipeline to train deep learning models for robotic grasping of novel objects

Research Experience

Learning & Intelligent Systems Lab, MIT, *EECS*, Graduate researcher 2021-2022
Thesis: Learning Parameterized Options for Task and Motion Planning

Behavioral Economics Lab, MIT, *Economics*, Undergraduate researcher 2020-2021
Discrimination and Revelation of Mental Illness in the Workplace

- Programmed web app to run RCT experiment; designed and ran surveys; conducted econometric and data analyses; contributed to experimental design and implementation of RCT

Manipulation & 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 pose estimation of household objects

Distributed Robotics Lab, MIT, *EECS*, Undergraduate researcher 2017 – 2018
Ubiquitous Precision WiFi-based Indoor Localization

- Implemented sensor data streaming system under real-time constraints; prototyped antenna-array nodes

Teaching Experience

TA for MIT 6.036, Introduction to Machine Learning Spring 2021, Spring 2022
TA for MIT 6.S087, Mathematical Methods for Multidimensional Statistics January 2021, January 2022
TA for MIT 6.041/6.431, Probabilistic Systems Analysis Fall 2020, Fall 2021