

Undergraduate Student

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EDUCATION

Massachusetts Institute of Technology | Cambridge, MA

May 2026

Bachelor of Science in Electrical Engineering and Computer Science, Minor in Finance Cumulative

Coursework: Algorithms, Linear Algebra, Machine Learning, Probability & Random Variables, Dynamic Systems & Control, Data Science, Computational Structures, Circuits & Electronics, Programming in C & Assembly, Differential Equations

SKILLS & TECHNICAL TOOLS

Languages: Python, Java, C, C++, Assembly, Javascript, Typescript, Shell Scripting, Bash, MATLAB, HTML/CSS, Verilog

Technologies: PyTorch, Tensorflow, ROS, OpenCV, Scikit-learn, Keras, Docker, Embedded Systems, Nvidia Gym, Pandas, Numpy, Matplotlib, Git, Jupyter, Django, Flask

EXPERIENCE

Software/Electronics Engineering Analyst Intern | Magna, Office of the CEO

City, ST | Jun 2024 - Present

- Work directly under the supervision of CEO, supporting strategic decision-making by conducting in-depth analyses on engineering projects and operational processes.
- Drive collaboration within Magna's 8 businesses to identify and implement efficiency improvements, promote innovation, and inform executive-level decisions to ensure long-term success.
- Lead and develop new software and electronic prototypes; arranged partnership with leading auto-semiconductor company

Undergraduate Researcher | MIT CSAIL Distributed Robotics Lab/Toyota

City, ST | Aug 2023 - Present

- Work jointly with Toyota to develop robust self-driving vehicles using the MIT-developed car simulation engine VISTA
- Test models on a Lexus car modified with sensors, cameras, and a LiDAR system to understand real-world behavior
- Applied High Order Control Barrier functions, building upon BarrierNets applied to a neural network-based controller
- Incorporated techniques from control theory, integrating vision algorithms developed by Meta AI such as DinoV2

Teaching Assistant | MIT Lincoln Laboratory

Cambridge, MA | Jun 2023 - Aug 2023

- Instructed high schoolers on AI and Machine learning in the CogWorks course through project-based learning
- Managed Github organization for the course consisting of over 250+ students, instructors, and faculty
- Led a project on a patent-pending AI song mixer using Spotify's dataset of over 100,000+ songs and YouTube analytics

Undergraduate Researcher | MIT Marine Robotics Lab

Cambridge, MA | Oct 2022 - May 2023

- Conducted research on Robotics and RL using PyTorch, bridging the gap between simulation and real-world behavior
- Trained over 80 million+ simulations of various robots in environments such as Nvidia Gym and Mujoco
- Implemented Proximal Policy Optimization (PPO) algorithm developed by OpenAI, enhancing robot locomotion
- Gained expertise in cloud computing and parallel computing utilizing MIT's cloud supercomputer SuperCloud

Software Engineering Intern | Central Business Improvement District

City, ST | Jun 2022 - Aug 2022

- Analyzed the city's data on business vacancies in Albany, inspected over 200,000+ vacancies and crime rates, developed visualization map software using Google API, presented findings to the mayor's office for city development

PROJECTS

Autonomous UAV | PyTorch, OpenCV, ROS, Python, MATLAB

Spring 2024

- Developed an Autonomous Drone leveraging machine learning and OpenCV to enable real-time human detection and self-navigation using a PID control system, ensuring the UAV could accurately follow and respond to user movements.

Sentiment Analysis Stock Prediction (Candidate for HackMIT) | Python, Pandas, Flask, OpenAI,

Fall 2023

- Developed a predictive model to forecast stock price movements based on sentiment analysis of Twitter and Reddit data
- Implemented NLP techniques to preprocess and analyze social media text, assigning sentiment scores to identify trends

Home Security System | Python, OpenCV, Discord API, PyTorch, Raspberry Pi

Spring 2023

- Designed a home security system with facial recognition and real-time remote monitoring capabilities
- Integrated Discord API for instant emergency notifications and live image capturing