

Vivek Mhatre

Current: 890 Curran Street, NW, Atlanta, GA

(908) 967-8766 | vmhatre3@gatech.edu | [vam7686.github.io](https://github.com/vam7686) | github.com/VAM7686 | linkedin.com/in/vmhatre3/ | U.S. Citizen

Education

Georgia Institute of Technology

Atlanta, Georgia

COMPUTER SCIENCE · BS GRADUATION: MAY 2022 · MS GRADUATION: MAY 2023

AUG. 2019 - PRESENT

- Masters in Computer Vision and Robotics · GPA: 3.96
- Courses: Machine Learning, Advanced Algorithms, Probability & Statistics, Combinatorics, Discrete Math, Linear Algebra, Differential Equations, Computer Vision, Compilers & Interpreters

Experience

Amazon

New York, New York

SOFTWARE DEVELOPMENT INTERN

MAY 2022 - PRESENT

- Optimizing product recommendation engine for flagship retail site by integrating cutting-edge machine learning strategies, achieving a projected annual increase in overall revenue of \$25M+.
- Improving infrastructure for accelerated training and deployment of machine learning models for content recommendation.

Zebra Technologies

New York, New York

COMPUTER VISION INTERN

MAY 2021 - AUGUST 2021

- Developed computer vision algorithms and implemented/optimized software for Zebra's Fixed Industrial Scanners and Machine Vision Smart Cameras.
- Set up CI pipeline with static analysis, style and testing tools and wrote unit tests for various algorithms, improving code quality.

Georgia Institute of Technology

Atlanta, Georgia

INTRO TO ARTIFICIAL INTELLIGENCE (CS 3600) TEACHING ASSISTANT

JAN. 2022 - PRESENT

- Held office hours and taught Markovian and Bayesian Models, Statistical Inference, Machine Learning, Deep Learning, Reinforcement Learning, and Algorithms Design.
- Graded projects on implementation of AI and ML algorithms and societal impacts of computational intelligence.

Georgia Tech Research Institute

Atlanta, Georgia

RESEARCH INTERN

MAY 2020 - JULY 2020

- Researched and developed various custom machine learning models using Keras to accurately characterize blast waves generated by explosive charges with ~96% accuracy.
- Parsed, organized, and prepared over seven years of collected sensor readings using Pandas and Numpy to model blast waves.
- Utilized signal processing methods to extract features from sensor data to improve the characterization of blast waves by ~10%.

Extracurricular Activities

Robojackets RoboNav

Atlanta, Georgia

SOFTWARE LEAD

MAR. 2021 - MAR. 2022

- Lead and educate a team of 10 software developers for the Intelligent Ground Vehicle Competition (IGVC). Achieved 3rd place in design and 3rd place for the Grand Award in the 2021 competition.
- Lead robotics training for 30+ new members covering principles such as localization, mapping, and perception.

SOFTWARE ENGINEER

DEC. 2019 - MAR. 2021

- Implemented a U-Net with a pre-trained EfficientNet encoder to perform multi-class semantic segmentation, classifying the pixels in each image as a line, barrel, or background with a mean Dice score of 95%.
- Implemented 3D SLAM using Factor Graphs through the GTSAM library. Improved performance and computational efficiency by >55% from previous Extended Kalman Filter localization implementation.
- Used OpenCV and YOLOv3 to implement a low latency line detection algorithm able to identify lane lines and barrels in ~30ms.
- Created a ROS node testing library to streamline unit test creation and double code coverage.

Projects

HACKATHONS AND MORE

- Too Long Didn't Listen (TL:DL): Built a transcription tool during HackGT 2019 to convert an mp3 file into summarized text, highlighting keywords and linking selected phrases. Used Django and a combination of Microsoft Azure and Google Cloud.
- Created a Fantasy Premier League tool to predict player performances using reinforcement learning. Placed in top 5% of players.

Skills

Technologies TensorFlow, PyTorch, Keras, Scikit-Learn, BigQuery, Pandas, Numpy, LAMP stack, MySQL, Django

Programming Languages Python, C++, Java, Javascript, MATLAB, \LaTeX