

Vivek Mhatre

SOFTWARE DEVELOPER · STUDENT

Current: 890 Curran Street, NW, Atlanta, GA

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Education

Georgia Institute of Technology

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

• Specializing in Systems & Architecture and Intelligence · GPA: 3.94

Atlanta, Georgia

Aug. 2019 - Present

Experience

Zebra Technologies

COMPUTER VISION INTERN

- 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.

Holtsville, New York

May 2021 - Present

Georgia Tech Research Institute

RESEARCH INTERN

- 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%.

Atlanta, Georgia

May 2020 - July 2020

MobileArq

DATABASE PROGRAMMER

- Maintained highly secure MySQL databases for large school districts consisting of 40,000 families.
- Built and maintained secure websites for various NJ organizations using a LAMP Stack and WordPress.
- Designed mockups and wireframes for a mobile application to assess performance of medical residents at Columbia University.

Summit, New Jersey

Oct. 2014 - Sept. 2018

Extracurricular Activities

Robojackets RoboNav

SOFTWARE LEAD

- Lead and educate a team of 20 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.

Atlanta, Georgia

Mar. 2021 - Present

SOFTWARE ENGINEER

- Collaborate with team members to write code for a 200+ lb robot autonomously navigating rough terrain.
- 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.

Dec. 2019 - Mar. 2021

Automotive Lidar Vertically Integrated Project

SIMULATION SUBTEAM LEAD

- Developing a scanning 2D LiDAR system mounted on an RC vehicle to enable point-to-point autonomous navigation, with collision avoidance using ROS, Python, and C++.
- Doubled the capabilities of existing gazebo simulations to test the robustness of algorithms and eliminate bugs.

Atlanta, Georgia

Jan. 2020 - May 2021

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.
- Developed a basic aimbot in Counter-Strike: Global Offensive using C and x86 Assembly.

Skills

Technologies

TensorFlow, Keras, Scikit-Learn, Jupyter, Pandas, Numpy, LAMP stack, MySQL, Django

Programming Languages

Python, C++, R, Java, Javascript, MATLAB, \LaTeX