BHARATH SREENIVAS

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Education

Carnegie Mellon University ·
B.S. Computer Science, Dec 2022
Concentration: Machine Learning
Dean's List High Honors
GPA: 4.0/4.0

Skills

PROGRAMMING LANGUAGES
Python
C
Java
Javascript
Angular JS
Standard ML
HTML/CSS
LaTeX

TOOLS
Pandas
ROS
Numpy
Flask
Unix Command Line
Git
PyTorch

COURSEWORK
10-315: Introduction to Machine Learning
15-281: Artificial Intelligence
15-440: Distributed Systems
15-122: Imperative Computation and Data Structures
15-210: Parallel and Seq. Data Structs and Algos
15-150: Principles of Functional Programming
15-251: Theoretical CS
15-151: Discrete Math
15-241: Linear Algebra

Employment

Amazon — Seattle, WA
Software Development Engineer Intern — June 2021 to Current

Carnegie Mellon Racing — Pittsburgh, PA
Driverless Car Engineer — Aug. 2020 to Current
- Researching technologies to develop a fully autonomous racing car to compete in Formula Student Driverless Championship
- Leveraging computer vision and robotics tools in **Python** and **ROS** to develop Rapidly-Exploring-Random-Tree algorithm for vehicle path planning

Carnegie Mellon University School of Computer Science — Pittsburgh, PA
Teaching Assistant for 15-213: Introduction to Computer Systems — Jan. 2021 to May 2021
- Taught fundamental computer systems concepts to current students, such as caching, network programming, dynamic memory allocation, etc.
- Led two small group recitations per week, teaching weekly course content and conducting code reviews with 11 students
- Held weekly office hours, aiding students with understanding difficult concepts or debugging code using GDB

Relativity, Software Engineering Intern — Chicago, IL
Structured Analytics - Email Threading Team — May 2020 to Aug. 2020
- Used data analytics concepts to to optimize email review by arranging entire email conversations in sequence and identifying inclusive documents
- Used **C#** and **Angular JS** to implement API's that improved workflows on production software
- Enhanced UI for more streamlined customer experience
- Merged 19 pull requests to 2 repositories and 3 release branches
- Worked in Agile development environment for maximum productivity

Carnegie Mellon University Robotics Institute — Pittsburgh, PA
Research Assistant, Reliable Autonomous Systems Lab — Aug. 2020 to Jan. 2021
- Developing computer vision tools with **Python** and **OpenCV**, leveraging libraries such as **OpenFace**
- Using image classification/object detection to automate facial video analysis and detect emotion to train automated robotic tutor

Projects

Lane and Yaw Rate Detection — May 2021 to Current
- Building computer vision model using **OpenCV** and **Python** to perform lane detection and yaw rate reporting
- Using Hough transforms for line identification, and other search techniques to find curvature in the road
- Leveraging feature detection and matching to identify direction of movement in relation to car heading to determine yaw

Battlecode 2021 — Jan. 2021
- Developed an AI player in **Java** to strategically manage a robot army to defeat enemy teams
- Leveraged pathfinding and distributed algorithms to make player as competitive as possible
- Implemented custom libraries and bit-packing methods to optimize bytecode usage
- Qualified for finals tournament; finished top 10 out of 250+ teams internationally

CS and Game Theory Research, Northwestern University — Aug. 2017 to Aug. 2019
- Developed computational simulations in Python and MATLAB to determine optimal pricing strategies for wireless service providers
- Published Technical Paper "Duopoly Competition in Advertising-Sponsored Wi-Fi Provision" at W.I.T.S. Conference

Activities

FRC: Titan Robotics 2022 · Design Captain — Aug. 2012 to Aug. 2019
- Led design team responsible for building and coding competition robot per FRC specifications
- 2019 Regional Design Quality Award recipient

CMU Sahara · Lead Dancer — Aug. 2019 to Current
- Lead dancer on competitive Bollywood Fusion team
- Compete at various competitions nationwide through the DDN circuit