

# Arjun Sridhar

PhD Student

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📍 Durham, NC

## WORK EXPERIENCE

### PhD Research Duke University

08/2020 - Present

Durham, NC

CEI Lab

#### Achievements/Tasks

- CVPR NAS competition - Implemented and designed NAS on a ResNet style architecture. Select channel width using different path sampling strategies like random, progressive shrinking, and iterative expansion.
- NAS extensive literature review - Read ~60 papers in NAS to get familiar with research area, drafted survey paper.
- Compared NAS path sampling strategies on NASBench - Many NAS papers claim to have the SOTA path sampling strategy by changing several variables, my experiment isolates the path sampling strategy as the an independent variable across different search space sizes.

Contact: Dr. Yiran Chen

### Software Engineer Google

07/2018 - 07/2020

Mountain View, CA

Audio Assistant for Google Home/Google Fiber

#### Achievements/Tasks

- Implemented new audio compression algorithm resulting in reduced bandwidth consumption and latency (Assistant).
- Characterized and optimized on-device machine learning models to improve latency (Assistant).
- Development of sever side application for Google Fiber that handles Outage Detection/Tracking, Network Topology, Live Subscriber Status, and many more functions (Fiber).
- Implemented a persistent cache for a correlation engine that detects network outages in order to prevent duplicate alerts (Fiber).

### R&D Internships

#### Boston Scientific Neuromodulation

05/2017 - 08/2017

Valencia, CA

#### Achievements/Tasks

- Implemented A.I. algorithms for static code analysis in order to improve efficiency in detecting and preventing bugs using records from a bug tracking database.
- Developed firmware in C++ that controlled interfacing between application and flash memory by sending opcodes, memory addresses, and data as bytes to the flash chips.

## PROGRAMMING LANGUAGES

Python

C++

Java

SQL

Bash

Javascript

## OTHER EXPERIENCE

### Undergraduate Researcher @ Berkeley Deep Drive

- The Learning Traffic lab utilizes Deep Reinforcement Learning to apply controls on autonomous vehicles in a mixed fleet of human drivers to improve traffic flow and relieve congestion in simulation.
- My research involves creating a stochastic model for lane changes and utilizing the model to study the effects of lane changes on traffic. I created the stochastic model by using statistical regression techniques on real world data sets. I validated the models by running simulations against real traffic data and comparing key lane change behavior to ensure the simulation was accurate.
- Increasing the complexity of the model used by the autonomous vehicles allows for greater prediction accuracy and representation of the real world.

### Project Manager/Mentor @ Pioneers in Engineering

- Pioneers in Engineering is a nonprofit organization that develops and hosts a robotics competition for high school students at a very low cost by custom designing a hardware and software kit.
- As Dawn Project Manager, I was responsible for development of a Front-End Application built on Electron using NodeJS and managed a team of 6 developers. I performed tasks such as recruiting, handling feature requests, task distribution, and assignment.
- As DevOps Project Manager, I was responsible for the development of installation, deployment, and update scripts for the main processor on each robot. The scripts launched the runtime application on startup and configured networking settings.
- Served as a mentor for a Bishop O'Dowd High School's Robotics team. Met weekly to teach programming in addition to electrical and mechanical design concepts.

## EDUCATION

### PhD Electrical and Computer Engineering

#### Duke University

08/2020 - Present

4.0

### BS Electrical Engineering and Computer Science

#### UC Berkeley

08/2015 - 05/2018

3.75

### AS Mathematics

#### College of the Canyons

08/2012 - 06/2015

3.89