Ajay Benno

ajaybenno.com | abenno@andrew.cmu.edu | github.com/AjayBenno | 610.533.8400

EDUCATION

CARNEGIE MELLON UNIVERSITY

B.S in Electrical and Computer Engineering
Minor in Computer Science
Expected May 2019 | Pittsburgh, PA
Cum. GPA: 3.41 / 4.0

METHACTON HIGH SCHOOL

Grad. May 2015 | Collegeville, PA

COURSEWORK

UNDERGRADUATE

- Principles of Imperative Programming(15-122)
- Discrete Mathematics(21-127)
- Introduction to Computer Systems(15-213)
- Functional Programming(15-150)
- Structure and Design of Digital Systems(18-240)
- Introduction to Telecommunication Networks(18-345)
- Database Systems(15-445)
- Parallel and Sequential Data Structures(15-210)
- Parallel Computer Architecture and Programming(15-418)*
- Electronic Devices and Analog Circuits(18-220)*

(* : In Progress)

SKILLS

EXPERIENCED

Python ▪ Java ▪ C

PROFICIENT

Scala ▪ CircleCi ▪ Arduino ▪ ROS
System Verilog ▪ Unix/Linux

FAMILIAR

HTML/CSS ▪ Matlab ▪ H20.ai

ORGANIZATIONS

Sigma Nu Executive Board
ECE Outreach

EXPERIENCE

CAPITAL ONE Software Engineering Intern

Summer 2017| San Francisco, CA

- Implemented a microservice to aggregate data, and pipeline it into a model to predict credit card application fraud; Built a REST API for easy access.
- Setup CircleCi pipelines which built docker containers for easy deployment.
- Wrote cloudformation scripts to automatically build and configure Amazon EC2 instances.
- Added H20.ai (an open source deep learning platform) support to Clipper; Clipper is an open source prediction serving library.

DECISIVE ANALYTICS CORPORATION | Machine Learning/Software Engineering Intern

Summer 2016| Arlington, VA

- Used support vector machines to model the virality of YouTube videos. The model used features such as sentiment of the video's comments.
- Implemented Latent Dirichlet allocation on the corpus of all user interactions with YouTube to build a profile of the user.
- Built out a REST API to connect the prediction algorithms to a user interface.

SEI EMERGING TECHNOLOGY CENTER | Software Engineering Intern

Jan 2016 – Present | Pittsburgh, PA

- Used a corrective gradient refinement algorithm to localize a robot in a physical space. Worked on an application of CGR localization which could autonomously move the robot around in the space by clicking on a map.
- Contributed to Micro Expression project by switching the classification model to a support vector machine.

RESEARCH

WI-FI BASED MATERIAL SENSING TO AUGMENT AUTONOMOUS VEHICLES

Spring 2018

- Using off-the-shelf WiFi cards to classify the material of an environmental object (eg. wood, metal, human) using its physical properties, and to determine what angle the object is at. Since WiFi signals can propagate around corners and through walls, we hope to use this technology for autonomous vehicles and searching disaster sites. Working with Diana Zhang and Dr. Swarun Kumar.

PROJECTS

SQLITE STORAGE MANAGER Fall 2017

- Built a fully functional storage manager for the SQLITE DBMS. Implemented a buffer pool manager, concurrent B+ tree, and write ahead logging.

SMART JACKET Spring 2017

- Added "Smart" features to a jacket including real time status information controlled by voice recognition; Used Arduino, Python, and various hardware components.