Allen Liu Greater New York Area

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EDUCATION

Carnegie Mellon University | Pittsburgh, PA

Bachelor of Science in Computer Science · Minor in Robotics · GPA 3.32 · Expected Graduation: May 2022

Relevant Courses: Principles of Software Construction (17-214), Introduction to Machine Learning (10-315), Introduction to Computer Systems (15-213), Parallel and Sequential Data Structures and Algorithms (15-210), Principles of Imperative Computation (15-122), and Principles of Functional Programming (15-150)

SKILLS

Experienced in developing applications and algorithms in Java (including Android Development), Python, C, and SML.

Comfortable with developing web application and sites with Javascript (React, Node.js), HTML, and CSS (Bootstrap)

Knowledgeable about Linux, Git, Travis.CI, Gradle, gdb, Assembly, scikit-learn, PyTorch, Arduino, Raspberry Pi, and CAD

EXPERIENCE

Eberly Center | Pittsburgh, PA
Research Assistant · November 2019 - Current
- Applying machine learning and computer vision to analyze classroom data and generate useful metrics for professors to better understand their class dynamic and facilitate learning.
- Extracted and analyzed various audio metrics (RMS, peak levels, zero crossing rate, SNR, etc.) via Librosa to determine a set of viable features to discriminate between human speech, background noise, and silence.
- Utilized scikit-learn to produce a voice activity detector that achieved 86% accuracy on our test set.

CyLab (Visual Intel Studio) | Pittsburgh, PA
Research Assistant · August 2019 - October 2019
- Lead developer for an indoor navigation project - an Android app that utilizes the Google Maps API in combination with onboard sensors and existing building floor plans to track location indoors even when GPS is unavailable.

PROJECTS

News Cloud (PennApps 2019 Submission) - Chrome extension that overrides the new tab page with a word cloud automatically generated with trending phrases scrapped from various news sites. A Flask app written in Python (for web scraping and natural language processing) and Javascript (site and word cloud generation).
- Developed the front end and word cloud generation script (in purely Javascript) to generate the cloud on the fly while considering a variety of criteria such as adaptability for various aspect ratios and overlap prevention.

The Artist (2017 NJ TSA Animatronics - 1st Place) - A voice controlled automaton that mimics human behavior (eye gaze, speech, etc.) that draws various objects and text based on specified voice commands.
- Served as Team Manager and Lead Programmer from 2014 to 2017.
- Wrote the voice recognition code for the automaton using Python and the CMU pocket-sphinx library.

for more details and other projects, please check out aliuliu121.github.io

EXTRACURRICULARS

CMU Fencing Club | Sabre · September 2018 - Current

HONORS & AWARDS

Morris Hills: AP Scholar with Distinction, Morris Hills Top 20, Four Year Varsity Starter, 2018 Morris County Champion