in https://linkedin.com/in/gramliu

https://github.com/gramliu

https://gramliu.com

Gregory "Gram" Liu

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EDUCATION

Carnegie Mellon University — Pittsburgh, PA
Bachelor of Science in Electrical and Computer Engineering, **GPA: 4.0 / 4.0** — May 2023
Programming Coursework: Computer Systems (Assembly/C), Data Structures and Algorithms (C), Fundamentals of Programming and Computer Science (Python)
EE Coursework: Structure and Design of Digital Systems, Electronic Devices and Analog Circuits

SKILLS

Programming Languages:
JavaScript, TypeScript, Java, Python, C, C++, PHP, SQL, Bash
Hardware:
Arduino, Raspberry Pi, NodeMCU

Software Frameworks:
Node.JS, Express, React, Redux, Slim, MongoDB, MySQL, Firebase, Android SDK/NDK, Git, Linux, Nginx, TensorFlow, OpenCV, Node-RED

EXPERIENCE

Research Assistant, CMU Human Computer Interaction Institute — May 2020 - Present
Computer-Human Interaction: Mobility Privacy Security Group
- Developed an IoT app development framework that integrates sensors across LAN into scalable and secure smart systems
- Used **Node-RED** and **Node.JS** to develop a modular interface with functional programming principles
- Utilized **OpenCV**, **TensorFlow**, and **FFMPEG** to filter and transform outgoing private information collected by microphones and cameras for anonymity

Fullstack Engineer (volunteer), Dashboard Philippines (nonprofit) — Mar 2020 – Aug 2020
https://dashboardphilippines.com/ | https://donations.dashboardphilippines.com/
- Developed a dashboard to centralize information about hospitals, transportation routes, and relief distribution in the Philippines for the COVID-19 pandemic
- Designed database schema and backend system to track patient/supply capacity of over 2,000 hospitals with more than 10,000 distinct hierarchical documents using **MongoDB, Express, React/Redux,** and **Node.JS (TypeScript) (MERN Stack)**

SELECTED PROJECTS

Distributed Air Quality Monitoring System — Mar 2019
https://github.com/ph-innovation-network/amihan
- Designed and created modular air quality monitoring circuit board using **Arduino** and **NodeMCU** (ESP8266). Created server backend for collecting and visualizing information using **PHP (slim), React,** and **MySQL**

Medisure.ai — Sep 2020
https://github.com/medisure-ai/medisure-ai
- Created a platform to summarize medical insurance SBC documents and automatically generate insurance claim denial appeal letters using **OpenAI GPT-3, Google Cloud Platform, Flask,** and **React**
- Awarded honorable mention for "Best Use of Google Cloud" at PennApps 2020

ACTIVITIES AND LEADERSHIP

Director of Technology, ScottyLabs — 2019-Present
- Grew weekly meetings from 15 members to 40-50 members, developing and maintaining 10 different software projects and APIs for the CMU community
- Developed a **RESTful API** for course information and estimated workload per week for different courses using **MERN**
- Working on a new registration system for TartanHacks, CMU's largest hackathon, using **MERN**

Events Coordinator, Society of Asian Scientists and Engineers — 2019-Present
- Spearhead different events for cultural and professional engagement within the club

HONORS

CMU College of Engineering Dean's List — 2019-2020
8th Place, National Olympiad for Informatics, Philippines — 2019
5th Place, National Physics Olympiad, Philippines — 2018