Gram Liu

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Education

Carnegie Mellon University
Bachelor of Science in Electrical and Computer Engineering, May 2023

Additional Minors:
Computer Science

GPA: 3.92/4.0
Dean's List
Tau Beta Pi, Eta Kappa Nu

Relevant Coursework:
- Distributed Systems
- Database Systems
- Data Structures and Algorithms
- Computer Systems
- Software Construction
- API Design
- Machine Learning
- Pattern Recognition Theory

Skills

Programming Languages:
JavaScript · TypeScript · Python · Kotlin · Java · Go · C · C++ · Ruby

Technologies/Frameworks:
Node.js · React · MongoDB · SQL · Android · Docker · AWS · GCP · Bash

Awards and Honors

- *Best NLP Hack*, HackMIT 2022
- *Best IoT Hack*, HackMIT 2021
- *Top 3, Best Use of Google Cloud*, PennApps Fall 2020
- *8th Place*, Philippine National Olympiad for Informatics 2019

Research and Publications

Peekaboo: A Hub-Based Approach to Enable Transparency in Data Processing within Smart Homes
Co-Author, IEEE Symposium on Security and Privacy 2022
10.1109/SP46214.2022.00142

Work Experience

Stripe · Software Engineering Intern   May 2022 to Aug 2022
- Developed a novel instrumented testing framework for the Stripe Terminal, emulating a physical reader on CI for automated testing
- Resolved CI flakiness that two engineers tried to solve unsuccessfully over the past 12 months, improving reliability of a core test suite from 80% to 100%
- Drove collaboration across 5 teams to scope out a key problem in the development of future emulator tests, identified potential solutions, and determined concrete steps for the fix

Dashlabs.ai (YC W21) · Software Engineering Intern   May 2021 to Aug 2021
- Built management platform with a team of 3 for the Philippine Red Cross (PRC) which was pivotal in the first mass COVID-19 vaccination roll-out in the Philippines
- Developed Apollo GraphQL and MongoDB schemas for management of clients, chapters, and members of the PRC
- Created backend microservice to generate vaccination cards with embedded QR codes

CMU Human Computer Interaction Institute · Research Assistant   May 2020 to Present
Computer-Human Interaction: Mobility Privacy Security (CHIMPS) Lab
- Built an IoT app development framework supporting reusable native privacy features
- Designed a domain-specific language (DSL), interpreter, and runtime for building decentralized privacy-centric smart city applications

Dashboard Philippines · Full Stack Engineer   Mar 2020 to Aug 2020
- Coordinated with Philippine Red Cross (PRC) and Department of Health to build a dashboard centralizing info on accessing essential goods and services in the Philippines during the COVID-19 lockdown
- Migrated legacy database systems and backend, bringing down COVID-19 test processing time from 2 weeks to 3 days at the height of the pandemic

Selected Projects

TartanHacks Software Suite · 2021-2023
- Spearheaded development design and development of DB schema and backend/REST API encompassing registration, scheduling, and project submission for TartanHacks

Pol.Lit · HackMIT Fall 2022 · Best NLP Hack
- Built platform to improve political literacy and accountability using OCR, Pegasus, and BERT to convert PDF scans of bills (>20pgs) into 1 paragraph summaries
- Assigned keyword tags to each bill and built profiles on each member of the Philippine congress with focus areas and leaderboards per area

Medisure.ai · PennApps Fall 2020 · Top 3, Best Use of Google Cloud
- Created a web app to summarize medical insurance documents and generate insurance claim appeal letters using GPT-3, GCP, Flask, and React

Leadership

ScottyLabs · Director of Technology · TartanHacks Software Lead
- Managed 13 teams over 50+ members, developing software projects for the campus community
- Led development and deployment of software suite for TartanHacks 2021 and 2022 with over 300 participants from 18 countries each year
- Pioneered a REST API and website for CMU course information and expected hours per week which currently has had **3,600+ unique users**
- Built website showing availability of on-campus dining locations with **3,000+ monthly users**