

## EDUCATION

### CARNEGIE MELLON UNIVERSITY (CMU)

BS IN ELECTRICAL AND COMPUTER  
ENGINEERING  
MINOR IN SOFTWARE ENGINEERING  
May 2023 | Pittsburgh, PA  
GPA: 4.0 / 4.0

## COURSEWORK

- Computer Systems (C / Assembly)
- Data Structures and Algorithms (C)
- Fundamentals of Computer Science (Python)
- Introduction to Electrical and Computer Engineering

## SKILLS

### LANGUAGES

Java • Python • C • C++  
Javascript • Typescript  
PHP • SQL • Bash

### FRAMEWORKS

NodeJS • Express • ReactJS • Slim  
MongoDB • MySQL • Firebase  
Android SDK/NDK • Flutter  
Git • Linux • Nginx  
TensorFlow • OpenCV • Node-RED

### HARDWARE

Arduino • Raspberry PI • NodeMCU

## PUBLICATIONS

Development of a Mobile Android  
Application on Optical Character,  
Speech, and Sign Language  
Recognition

published in the proceedings of  
the 2018 Physics Society of  
Visayas and Mindanao National  
Conference (Philippines)

## HONORS

- 2019 CMU Engineering Dean's List
- 2019 8<sup>th</sup> place at National Olympiad  
for Informatics (Philippines)
- 2018 5<sup>th</sup> place at National Olympiad  
for Physics (Philippines)

## EXPERIENCE

### CMU HUMAN COMPUTER INTERACTION INSTITUTE

COMPUTER HUMAN INTERACTION: MOBILITY PRIVACY SECURITY GROUP

Research Assistant

May 2020 - Present | Pittsburgh, PA

- Developed an IoT network hub that transforms normal sensors across LAN into a smart home system with a focus on privacy using **Node-RED**, **Node.JS**, **OpenCV**, and **TensorFlow**

### DASHBOARD PHILIPPINES

March 2020 - Present | Philippines

<https://dashboardphilippines.com/>

<https://donations.dashboardphilippines.com/>

- Partnered with the Philippine government to develop a national dashboard centralizing information and relief distribution in the Philippines during COVID-19 pandemic
- Created platform streamlining donation process to hospitals to address the deficiency of medical supplies using **MongoDB**, **Express**, **React**, and **Node.JS (Typescript)**

## SELECTED PROJECTS

### NATIONAL AIR QUALITY MONITORING SYSTEM

March 2019 - Present | Philippines

<https://github.com/ph-innovation-network/amihan>

- Designed and created modular air quality monitoring device using **Arduino** and **NodeMCU**
- Created backend for collecting this information using **PHP (slim)** and **MySQL**

### SIGN LANGUAGE, SPEECH RECOGNITION, AND OCR ANDROID APP

October 2018

<https://github.com/gramliu/Unawa>

- Developed **Android** app to perform sign language recognition with **TensorFlow Lite** and **OpenCV Mobile**, and OCR and Speech Recognition using **Google Cloud API**

## ACTIVITIES AND LEADERSHIP

### SCOTTYLABS | DIRECTOR OF TECHNOLOGY

August 2019 - Present | Pittsburgh, PA

- Led the Tech Committee with 25 members, working on various projects and APIs for the CMU community
- Developed Course API which gives access to course information using **MongoDB**, **Express**, **React**, and **Node.JS (MERN) Stack**
- Developing registration system for TartanHacks (CMU's largest Hackathon) using **MERN Stack**

### SOCIETY OF ASIAN SCIENTISTS AND ENGINEERS

#### EVENTS COORDINATOR

August 2019 - Present | Pittsburgh, PA

- Organized professional and cultural events for club with 10-15 active members to enrich student experience and pride in Asian heritage