

# Angel L Garcia

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## EDUCATION

### Bachelor's in Science Computer Engineering,

Dec 2024 | GPA 3.02

University of Puerto Rico - Mayaguez Campus

- **Areas of Emphasis:** Software Engineering, Databases, Operating Systems, Data Structures, Advanced Algorithms
- **Technologies:** Vue, Vite, React, Vercel, Flask, Figma, Tailwindcss, NodeJs, AWS, Obsidian.md, Pygame, Dash Python

## PROFESSIONAL EXPERIENCE

### TA in Advanced Programming (CIIC 4010),

Aug 2023 – present

University of Puerto Rico, Mayaguez

Currently working in a team of TAs where my role consisted in creating specs, grading rubric, and programming the base the projects given in the course in Open Frameworks.

## PROJECTS

### Single Events Effects (SEE) Data Post Processing GUI

Aug 2022 – present

- Applied a base code written in python to design a BI GUI utilizing *Dash python*. This BI shows the effects of Single Event Effects (SEE) obtained from Texas Instruments for a *TPS7H4010-SEP* chip.
- Optimized code by implementing *pandas*, *scipy*, and *numpy* resulting in a lower runtime. Which was tested by using a labview file of around *250MB* can be processed from around *10 seconds* to *0.09 seconds* using vectorization and other techniques.
- Designing a GUI with the intent to replace Spotfire, to increase the efficiency of the runtime by limiting the processes to specified signals.

### Fullstack Booking API

Dec 2021

- Developed the backend API following the *MVC* pattern using *PostgreSQL* for the database and python *Flask* for the model and controller.
- Deployed, tested, and debugged the API using *Heroku* for deployment, its CLI for debugging, and *Postman* for testing all API endpoints.
- Worked with a team in the design of the view written in React.

### Real-Time Room Temperature System, C++, JS, MQTT, NodeRed

Dec 2022

- Utilized *AWS* to set up a server.
- Employed *NodeRed* and *MQTT broker* to establish communication between the device, the server and a voice service such as *Siri*.
- Collaborated in a team and designed a dashboard that tracks room temperatures in real-time and shows the average of each room using an *ESP-32* with a temperature sensor.

### Mechanical Multi-function Keyboard, C++, PCB design, 3D modeling

Jan 2023

- Developed and designed a custom-designed, programmable 3x5 macropad with dual encoders and a sleek LCD screen, powered by a using the *ATMEGA32U4* microcontroller and using the latest software for I/O devices.
- Customized the device with *QMK* firmware, enabling easy programming and enhanced functionality.
- Designed and printed a durable, stylish case for the macropad using on *Fusion360* and printed using *PLA* filament.

## ORGANIZATIONS

### IEEE Circuits and Systems Society (CAS) - UPRM Chapter,

Jan 2023 – present | Mayaguez, PR

Technical Advisor and Assistant Webmaster

- Mentored and guided members through the specifics of technical subjects and designed tutorials based on students' relevant coursework.
- Innovated in web design by aiding the main webmaster in the UI/UX design of the association official website.

## SKILLS

C/C++



Python



PostgreSQL



Javascript



HTML/CSS



Bash Shell



Unit Testing

