CALVIN GUZMAN

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TECHNICAL SKILLS

Programming Languages: C++, C, Python, PHP, Javascript, Java, Lua, Capl, MATLAB, HTML/CSS, R, SQL

Libraries and Frameworks: Wininet / Winsocks / Curl / Axios / Requests / Selenium / Beautiful Soup, OpenSSL, Scikit-learn, FaceAPI, OpenCV, TensorFlow, Direct 2D, Directx11, Imgui, PySimpleGUI, matplotlib, React, Ionic, Arduino, HID-API, FTP

Tools: VS Code & Community, Arduino IDE, Android Studio, PhpMyAdmin, FileZilla, XAMPP, Fiddler, IDA, Themida 3.X

EXPERIENCE

Nissan North America – Overseas Chief Quality Engineer Intern, Smyrna, TN   Summer 2023
 - Created and Trained an AI that was used to sort over 18 Months of Repair Orders with an 86% accuracy in minutes. This system saves more than 6 hours a week from engineers manually sorting information to be presented to TSAs.
 - Created a 26 page word document detailing my knowledge in order to help support the next interns for the group.
 - Developed a system for decrypting, filtering, and organizing CAN signals to replace a previous system for the department.

Undergraduate Research Assistant, Tennessee Technological University   Aug 2022 – Current
 - Built sample environments to simulate a classroom for training AI to detect 5G signal integrity.
 - Designed and Developed a GUI to display the environment and allow users to more easily change presets.

iMakerSpace Support Technician, Tennessee Technological University   Aug 2022 – Current
 - Adapted Arduinos for monitoring the humidity, temperature, angle, and position of the 3D printers to collect and analyze data for 3D printer failure detection, using SMTP for texts and TTS with speakers to alert technicians.
 - Reverse Engineered Raise3D's software to grab the 10 printer camera feeds and upload it to a student-accessible website.

FTC Robotics – Coding Team Lead, Central Magnet   August 2020 – May 2022
 - Led 2 separate programming teams. Taught 40+ students how to problem solve and program in Java.
 - Used a combination of TensorFlow with cameras and general scripting to find discs on the ground and shoot them at a target.
 - Designed and Developed user-driven and autonomous modes that were used in the 2021 and 2022 FTC State Competitions.

PROJECTS

D.A.D. Smart Home Automation | *C++, Python, PHP, SQL, React, Ionic, Arduino, FaceAPI*   August 2021 – August 2022
 - Implemented the mobile application which includes a login system, a display page for sensor information, reminders, contact editing, a wander alarm, facial recognition, and geolocation for the after-hours wander alarm.
 - Designed and developed: Automatic Pill Dispensor software to give TTS and Text / Call reminders to take required medicines (can also send to family), Automatic Stove Knobs that turn off if smoke is detected or app timer completes, door sensors for the after-hours wander alarm, a bath sensor that notifies you when it's full, and a washer and drier sensor.
 - Planned and built a PHP / SQL API used for the storage and transfer of data between the sensors and the mobile app.
 - Earned top 100 from over 7,000+ participants for the Samsung Solve For Tomorrow event, winning $6500 for our school.
 - Authored a thesis paper detailing the development, design, and problem-solving used for the smart home system.

Amazon Deep Racer | *Python, Machine Learning, AWS*   October 2021 – December 2021
 - Earned top 100 from over 2,000 global participants in the October 2021 Deep Racer open event.
 - Created a rewards system weighing time, speed, complexity of the path taken, as well as hyperparameter optimization.
 - Finished 2nd at a state-wide competition that included participants from 5+ universities and 10+ teams.

EDUCATION

Tennessee Technological University, Cookeville, TN   May 2025
 - B.S. in Computer Science, Specializing in Data Science and AI, 3.41/4.00 GPA

Central Magnet School, Murfreesboro, TN   May 2022
 - High School Diploma with Honors and Engineering Distinction (Awarded to 1.8% of graduating class)
 - 1st Place Social Enterprise Award at the MTSU State Business fair with over 80 participants.
 - Activities: Robotics Team (Coding Team Lead for 2 years)