Davit Avetisyan

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Education

California Polytechnic University Pomona *Pomona, US*

BS in Computer Engineering *Aug 2021 - May 2024*

- **GPA: 3.51**

Glendale Community College *Glendale, CA*

Transfer Degrees *May 2018 - June 2021*

- **Associate in Science for Transfer Mathematics and Physics**

Experience

Crescenta Valley High school *La Crescenta, CA*

Lead IT Assistant *June 2018- May 2020*

- **Supported students and staff with technology-related problems and concerns**
- **Performed electronic repairs, hardware upgrades, and routine computer maintenance to ensure optimal performance and reliability.**
- **Troubleshot and resolved server and internet connectivity problems, ensuring minimal downtime and maintaining seamless network operations.**

Glendale Unified School District *Glendale, CA*

Programming Tutor *June 2018- May 2019*

- **Provided tutoring to middle and elementary school students, helping them understand programming concepts.**
- **Tutored intermediate-level students C++, Python, and the Unity Game Engine with C#, guiding them through projects and debugging.**
- **Introduced beginner-level students to the basics of programming using Scratch and Python**

Projects

F1TENTH Self-Racing RC Car *Pomona, CA*

California Polytechnic University Pomona *Aug 2023 - May 2024*

- **Designed a self-driving RC car capable of navigating a race track autonomously with a team of six others for the senior design project**
- **Technologies and tools used: NVIDIA Jetson Nano, ROS2, LiDAR, Python, custom power board, and VESC controller**
- **Incorporated Docker Containers to run the F1TENTH environment on the Jetson Nano due to Ubuntu version conflicts**
- **Simulations showed great results for emergency braking, wall follow, SLAM mapping, and gap follow nodes**

YOLOv5s Raw Material Detection *Pomona, CA*

California Polytechnic University Pomona *Aug 2023 - Dec 2023*

- **Trained the YOLOv5s model to detect five suburban raw materials: wood, metal, plastic, glass, and concrete.**
- **Model training was performed using a custom-made dataset of 513 images utilizing an RTX 2080 GPU**
- **The small dataset showed good results given the complexity of the items being detected**
- **5s model was perfect for live video object detection and smaller computers such as the Raspberry Pi 3 Model B (which gave acceptable performance when tested)**

Raspberry Pi Music Box *La Crescenta, CA*

Personal *Jan 2024 - Feb 2024*

- **Created a Raspberry Pi-based music box that utilizes RFID stickers as input triggers.**
- **Developed Python scripts to play corresponding audio files upon RFID detection, resulting in an interactive and personalized music experience.**
- **Created bash scripts to run code on startup and wired various buttons and LEDs to control and visualize audio settings**

Skills

Tech Stack	**C,C#,C++, MPLAB, Altium, Vivado, Pspice, Verilog/SystemVerilog, Assembly, Java, Python, Unity, BASH, Docker**
Technical Skills	**FPGA, Machine Learning/Vision, Software Engineering, OS, Circuit Design, Digital Logic, Embedded Systems**
Soft Skills	**Scheduled, Teamwork, Problem-solving, Apt Learner, Continuous Learning**