Aram Aprahamian
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US Citizen Willing to Get Security Clearance

Education: College of the Canyons | Associate of Science - AS, Computer Science — Aug 2022 - Jun 2025

Technical Skills: Java • C++ • C# .NET • Swift • Python • MATLAB • IOT • GitHub • Linux Shell Scripting • KiCAD PCB Design • Google Firebase • Unity Engine • Data/Image Processing

Soft Skills: Leadership • Creative Solutions • Teamwork • Communication

Projects

ATLAS: Advanced Three-Dimensional LiDAR Apparatus for Space | NASA RockSatX — Aug 2023 – Now
Lead Electrical Engineer (2025) | Lead Software Engineer (2024)

- **LiDAR:** Build a compact 3D topological scanner with a T.O.F sensor and MEMS mirror on a rotating housing to map space vehicle outer structures. This could identify and profile structural hazards and anomalies. Launch in August 2025 at NASA Wallops Facility in Virginia.
- **PCB Design and Development:** Design and build reliable electrical systems, create schematics, and design PCBs for two rocket experiments in low Earth orbit and space using KiCAD.
- **Embedded System, Communication, and Sensor Software Integration:** Developing software libraries for interfacing with payload sensors, motors, and telemetry. Building test equipment, assembling prototypes, making incremental changes, and documenting results. Using radio-based mesh networking systems, async telemetry, and real-time data transmission via SPI, UART, and I2C.

High-Strength, Low-Cost 3D Printed Robotic Arm — Sept 2023 – May 2024

- **CAD Modeling and 3D Printing:** Designed, iterated, and built a 5-axis robotic arm capable of lifting 2 kg using Fusion 360. Created a custom planetary gearbox system and rotating base for motor actuations.
- **Electrical Work:** Built the power distribution systems and data communication lines. Sourced all electrical components, including a high torque BLDC Motor, FOC controller, stepper motors + drivers, and limit switches.
- **Software Integrations:** Built a custom application using Python to control the robotic arm. Utilized a NVIDIA Jetson Orin Nano for GPIO and processing. Wrote the kinematic systems for handling positioning of the robotic arm.

Eyeglass Cleaner-Capstone Project — Aug 2021 - May 2022

- **Embedded Systems and Circuitry:** Programmed an Arduino to control an array of stepper motors, utilizing a BluetoothLE module. Created proper power delivery systems and power decoupling between the micro controller and stepper motors.
- **iOS App Development and Software Architecture**: Created an iOS app using XCode and Swift for wirelessly controlling the machine systems using Bluetooth. Implemented dual-way communication for real-time updates from machine side. Utilized the MVC software architecture for organization and functionality.

Experience

Software Engineer | Acqubit — Jun 2024 – Now

- Led development of software applications for data analysis, IoT device controls, background services, Linux Bash scripts, and test automation. Used JavaFX, C#, .NET 9, .NET Framework 4.8, Avalonia, and Python Tkinter. Employed Git version control, followed ITAR security standards, participated in design reviews, and documented work.
- Created a custom JavaFX image processing library for fast matrix heatmaps and a data analysis toolkit for DCR, PDE, and Crosstalk calculations. Developed an automated tool for precise object alignment in photo diode manufacturing.

Software Engineering Intern | Acqubit — Nov 2023 – Jun 2024

- Software development of embedded systems and GUI interfaces utilizing Python and Java programming languages.
- Designing and testing software based on specific hardware components, utilizing datasheets.

NCAS Aerospace Scholar | NASA - National Aeronautics and Space Administration — Aug 2023 – Nov 2023

- Systems engineering for a Lunar Rover expedition, utilizing LiDAR terrain mapping and navigation systems, NASA DSN for communication, radioisotopic thermal generation, cosmic radiation detection, and subsurface water detection.
- Conceptualized a visual infographic on NASA's Artemis III moon landing mission.

Software/Electrical Engineering Intern | SM Engineering Consulting LLC — Jun 2023 – Sept 2023

- Responsible for software development for Arduinos using C++, and Git version control systems.
- Engineering electronic circuits with breadboards, planning projects, documentation, daily routine tasks and maintenance, and testing. Developed a robotic claw-arm device.

Honors & Awards

National Science Foundation
S-STEM Scholarship

Societies

Association of Computer Machinery
Chapter President | Founding Member