Hamza Anver

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EDUCATION

⚜ New York University
BS in Computer Science
Minor in Engineering
Expected May 2026 | Abu Dhabi
GPA: 3.74/4.00

Coursework
Real-Time Embedded Systems
Operating Systems
Algorithms
Computer Systems Organization
Applied Internet Technology
Data Structures

SKILLS

Languages
C/C++ • Python • JavaScript
HTML/CSS • LaTeX

Hardware
PCB Design • PCB Assembly
3D Printing • CAD (Fusion360,
OnShape) • Simulation

Frameworks
FreeRTOS • ESP-IDF • PlatformIO
Node.js • Express • React.JS

Software and Tools
KiCad • Fusion360 • OnShape
VS Code • DaVinci Resolve
OpenRocket • Inkscape • Blender
Git • Docker

Cloud Services
CloudFlare • Digital Ocean • SSH
UNIX Shell

Additional Skills
Documentation • Technical Writing
Project Management

LINKS

🌐 hamzaanver.com↗
🐙 github.com/Hamza-Anver↗
in linkedin.com/in/a-hamza-anver↗

Project Links
◉ nyuad.space↗
🐙 ESP32 MQTT Handler↗
🜨 RoCat V1.1.0↗
◉ ARMER↗
◉ HALOSHIP↗
🌐 hamzaanver.com/projects↗
for all projects

EXPERIENCE

Sri Lanka Telecom
Research & Development Intern — Colombo, Sri Lanka | Jun - Aug 2024
- Developed synthetic image generation for training number plate recognition machine learning algorithm with Blender and Python
- Designed Industrial Internet of Things firmware for ESP32 providing development platform for future work using FreeRTOS & PlatformIO
- Wrote SIMCOM A76XX LTE module firmware with Espressif IoT Framework

Engineering Design Studio
Summer Research Assistant — Abu Dhabi, UAE | May - Jul 2023
- Collaborated with mentors from NASA JPL for development of a novel hold-down-and-release mechanism for small spacecraft
- Manufactured and launched an experimental high-powered rocket with exploratory separation systems at SpacePort America Cup 2023
- Developed and fabricated PCBs for a custom flight computer and 3D printed components for the structure of the rocket

PROJECTS

ESP32 MQTT Handler
IIoT Firmware — SLT Digital Lab
- Modular library for Industrial IoT, providing a web portal for configuring MQTT and OTA settings, with redundant LTE & WiFi communication
- Adaptive asynchronous captive web portal with live status updating
- Automated HTML formatting and compression using Python in PlatformIO projects for rapid development of embedded system web interfaces
- Implemented Over-The-Air updates with a 'pull' method for multiple systems to update themselves using a single GitHub repository or server

RoCat V1.1.0
Rocketry Flight Computer — nyuad.space
- Flight computer consisting of a six layer, 54mm x 80mm custom PCB
- Features high-speed data logging, 6 DoF IMU for tracking, SD card storage, on board flash storage, peripheral connectivity and battery management
- Uses an STM32F7 as an MCU, UBLOX SAM-M8Q GNSS for positioning and an RFM69 for LoRa communication

ARMER
Hold-Down-and-Release Mechanism — NASA JPL & nyuad.space
- Reusable, mechanically and electrically redundant hold-down and release mechanism for small satellites and CubeSats
- Designed with finite element analysis and advanced manufacturing techniques to optimize the production process
- Showcased a reduction manufacturing cost from $100,000 to $1,000
- Two were successfully flown on HALOSHIP for chute deployment

HALOSHIP
High-Power Amateur Rocket — SpacePort America & nyuad.space
- Fully reusable high-powered amateur rocket, featuring two prototype HDRMs for section separation, and a novel approach to design
- Entirely mechanical subsystems utilizing CAD and simulations for a modular compact design transportable in a suitcase.
- Runner up for the Dr. Gil Moore Award for Innovation