Hamza Anver

✉ hamzaanver@nyu.edu ☎ +1 646 403 5020 📍 New York, NY

EDUCATION

🔱 NEW YORK UNIVERSITY
BS in Computer Science
Minor in Engineering
Expected May 2026 | Abu Dhabi
GPA: 3.75/4.00

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 Colombo, Sri Lanka | Jun - Aug 2024
Research & Development Intern
- 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 Abu Dhabi, UAE | May - Jul 2023
Summer Research Assistant
- 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 SLT Digital Lab
IIoT Firmware
- 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 nyuad.space
Rocketry Flight Computer
- 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 NASA JPL & nyuad.space
Hold-Down-and-Release Mechanism
- 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 SpacePort America & nyuad.space
High-Power Amateur Rocket
- 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