Christopher Fonseca

954-279-9372 | cjf8329@nyu.edu
cjf8329.github.io | linkedin.com/in/ChristopherFonseca

EDUCATION

New York University, Brooklyn, NY   May 2026
Bachelor of Science, Computer Engineering

  GPA 3.17

PROJECTS

Smart Basketball Return Turret   June 2025

- Designed and built a motorized, sensor-driven rotating turret to automatically return basketballs to a shooter
- Mechanical design in Fusion 360 with GT2 belt driven by stepper motor
- Developed embedded firmware on STM32 handling motor control, timers, sensor interrupts, and state logic
- Implemented infrared position detection using TSOP receivers and modulated IR emitters
- Project documented with schematics, CAD, firmware, demo videos on GitHub

Google API-Integrated Infrared Camera   June 2023

- Contracted via Upwork to create system to detect, count, and classify objects by size and temperature
- Raspberry Pi system using MLX90640 thermal camera over I2C, logging size and temperature to Google Sheets via RESTful Google Sheets API

TouchLock   October 2022

- Designed, wired, and programmed Internet-of-Things fingerprint door lock
- Allows new users to be paired, named, and entered into device's fingerprint database
- Denies access to unrecognized users, takes picture of the intruder using PiCamera, sends warning message with attached image to owner of door lock using RESTful Gmail API and Gmail SMTP Server

EXPERIENCE

Sponsors for Educational Opportunity, New York, NY (Hybrid)   June 2024 – August 2024
Software Engineering Fellow

- Built a web application to transcribe sign language into text
- Collaborated in 3-person team, owning backend logic and integration
- Deployed functional prototype with live camera input and transcription output

SKILLS

Embedded/Hardware: STM32, embedded C, motor control, sensor integration
Programming Languages: C, C++, Python, MATLAB
Software/Tools: Fusion 360, GitHub, Jupyter, Bash
Languages: English, Portuguese