

# Benjamin Variano

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## EDUCATION

### City College of New York

New York, NY

Bachelor of Engineering in Computer Engineering

Expected: December 2020

**Relevant Courses:** Data Structures, Algorithms, Computer Organization and Architecture, Operating Systems, Numerical and Scientific Programming

## SKILLS

**Programming Languages:** Python (fluent), C++ (fluent), JavaScript (familiar), HTML/CSS (familiar), Java (familiar)

**Proficiencies:** Linux OS, Git, Django, API handling, Bootstrap, jQuery, DroneKit, ArduPilot, Agora, SQL, Bash, VHDL, Agile

## WORK EXPERIENCE

### US Army Grant at RFCUNY | *Software Engineer Intern*

May 2020 – Present

- Developed an autonomous drone swarm using **C++**, **Python**, and **DroneKit** by implementing game theory and genetic algorithms for military application in an **Agile** team of 5
- Communicated with on-board flight controllers using **DroneKit API** and **MAVlink** protocols to make real-time decisions for flight maneuvers based on environment and mission
- Passed environmental data from **Python** code to **C++** executable using **Pipe** functions for bi-directional communication

### IT Technician at City College of New York | *College Assistant*

November 2018 – Present

- Installed and maintained Operating Systems and software on Server and Host devices.
- Fixed networking issues pertaining to Cisco and D-Link switches and set up Static IPs for host devices.
- Managed ticket system and quickly resolved user issues using remote-assistant software

### Cybersecurity Research at RFCUNY | *Research Assistant*

July 2018 – December 2018

- Established a secure communication link using **Agora.io API** that was embedded into a webpage for Doctor-patient interfacing
- Implemented encryption and token handling by integrating and customizing the **Agora.io API** into our **JavaScript** code to create a safe and reliable platform for communication

## PROJECTS

### AI Controlled Drone

Spring 2020

- Created a drone capable of flying missions autonomously using **Python** and **C++** without active user input
- Interpreted input data from environment using **Python** and **C++** to make real-time decisions and communicate with flight controller next course of action
- Wrote scripts for simulation environment using **Bash** to increase simulation setup speed

### Portfolio Website | [GitHub](https://github.com) | [BenVariano.github.io](https://benvariano.github.io)

Spring 2020

- Developed a portfolio website using **JavaScript**, **HTML**, and **jQuery** to showcase personal projects and skills
- Implemented scroll tracking and styled web pages with **CSS** and **Bootstrap** for a responsive and appealing interface

### Single Cycle CPU | [GitHub](https://github.com) | [Demo](#)

Fall 2019

- Used **Quartus** and an **FPGA DE2** board to create a single cycle CPU in **VHDL**
- CPU could perform all Bitwise operations as well as logical shift and rotate, allowing for both signed and unsigned addition, subtraction and multiplication and division by values of 2

## LEADERSHIP

### Student Athlete at City College of New York | *Lacrosse Team Captain*

Fall 2016 – Spring 2020

- Led a team of 25 peers through four seasons of varsity lacrosse as team captain
- Spent 2 years as Player-Coach organizing daily practices and game schedule and acting as liaison between our team and the athletic department
- Mentored younger players both on and off the field throughout the academic year
- Arranged volunteer work for the team to give back to the local community