JOHN RICHARDS

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EDUCATION

University of Maryland, College Park | Clark School of Engineering **Expected: May 2021**

B.S., Computer Engineering **Cumulative GPA: 3.9**

- Courses: Algorithms, Digital Logic Design, Computer Organization, Signals & System Theory, Analog and Digital Electronics, Organization of Programming Languages, Introduction to Computer Systems, and Object-Oriented Programming I/II

WORK EXPERIENCE

Research Support Instruments | Software Engineering Intern **May 2019 – Present**

- Implemented and tested the flight software for an onboard instrumentation package designed for consumer-grade quadcopters.
- Utilized an Arduino Nano and an embedded device to transfer data remotely with a ground station, allowing for scientifically significant data collection with a ±3% error threshold.

Salem Art Association | Logistics Intern **Jun 2018 – Jul 2018**

- Volunteer coordinator of thirty people collecting trash, recycling, and compost over the course of a three-day festival hosting 30,000 people.
- Compiled a formal report on the establishment of a paperless ticketing system at each of the entrances to reduce wait times.

National Security Agency | Software Engineering Intern **Sep 2016 – Dec 2016**

- Assisted a team of six people to provide weekly updates to a Java software library and its documentation.
- Attended weekly meetings with manager to discuss bug reports, new tasks, and progress on project.

Winquest Engineering Corporation | Cyber Security Intern **Jun 2016 – Aug 2016**

- Achieved a 60% increase in successful security tests by designing a program to teach good security practices.
- Assisted comprehensive security testing of commercial networks utilizing Linux and associated tools.
- Researched the theory and methods behind penetration testing and cybersecurity.

TECHNICAL PROJECTS

University of Maryland Keystone | Project Lead **Aug 2017 – Dec 2017**

- Designed an autonomous rover for a fire suppression mission that moved debris and extinguished fire
- Utilized the Arduino microcontroller for prototyping and controlling navigation and manipulation
- Presented a formal design report with visual aids to thirty-person audience.

Procedural Maze Project | Programing Lead **Aug 2017 – Dec 2017**

- Used cellular automata and Perlin noise in the Unity3D engine to generate random patterns and mazes.

LEADERSHIP

Virtus at University of Maryland | Mentor **Aug 2017 – May 2018**

- Participate in seminars on pre-professional development and engineering design

Cyber Patriot | Team Leader **Aug 2015 – May 2017**

- Searched for and remedied vulnerabilities in a virtual Windows environment
- Met weekly for practice and competed in the Maryland regional Platinum division

TECHNICAL SKILLS

- Java
- C
- C#
- C++
- Arduino
- Python
- MATLAB
- LaTeX
- Linux
- OCaml
- Ruby