# Jackson Campolattaro

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*Self-motivated Computer Engineering student with programming experience and an enthusiasm for Open Source principles.*
*I use complex, long-term personal projects as a medium for exploration of new programming languages, tools, and techniques.*

## Education

GPA 3.64 in-major, 3.46 overall

**Virginia Polytechnic**, *Computer Engineering*. **Fall 2018–Spring 2021**

Major in Computer Engineering with a minor and specialization in Computer Science. Graduated 1 year early due to accelerated classes.

## Skills

### Languages

**C++**. **6 Years Experience**

Libraries: Catch2, libsigc++, OpenMP, Intel TBB, Posix Threads, Gtkmm, Qt, OpenGL, GLFW, Magnum, CLI11, spdlog, Cereal, RapidJSON, TOML11, Libsoundio, FFTW

**C**. **2 Years Experience**

Libraries: Jansson, LibJWT

**Python**. **2 Years Experience**

Libraries: OpenCV

**Others**. **In Order of Experience**

Java, Rust, Verilog, HTML + CSS / Sass, Octave / Matlab, LabView, MIPS Assembly, x86 Assembly

### Tools

| | | | |
|---|---|---|---|
| Git | GDB | Github Actions | Markdown |
| Linux | Perf | Ansible | Basler Pylon |
| Valgrind | Travis CI | Doxygen | LaTeX |

## Experience

### Employment

**Google Summer of Code Apprentice**, *CGAL*. **May 2020–August 2020**

Worked remotely with a mentor in France to develop a new software package. The project is an Octree data structure, used in other packages. Required a mix of working with legacy code and green-field development.

**Innovation Committee Member**, *Telos Corporation*. **June 2019–August 2019**

Worked in a 7 person group of interns researching the viability of future software security products. Built the frontend of a replacement for Telos' employee intranet solution.

### Projects

**Quarter ID**, *Python*. **August 2020–Present**

Leading a small team of interdisceplenary engineering students to develop a solution which determines the value of collectible coins using machine vision. Involves industrial imaging and lighting hardware, paired with bespoke software written in Python using OpenCV.

**N-Body**, *C++*. **July 2018–Present**

Independently building a multi-threaded dynamical simulation tool to improve my familiarity with optimization, build tools, design patterns, and libraries. Incorporated concepts including concurrency, event-driven programming, serialization, cache-optimization, and tree algorithms among others.

**Spectrogram**, *C++*. **August 2020–December 2020**

Developed a low-latency Spectrogram audio frequency visualizer alongside two other students. Involved navigating real-time limitations in a contemporary event-driven desktop application, as well as CI, build system engineering, and other team management logistics.