

MATTHEW ROTH LISBERGER

Washington, DC

<https://github.com/asterane>

mattjrothlis@gmail.com

Engineer with customer service experience and advanced technical ability. Looking to utilize expertise from years of software and electronics work to solve important problems.

SKILLS

Software

- Intermediate C, C++, and Rust programming
- Coding on Linux, Windows, & microcontroller
- Experience debugging with GDB and Valgrind
- Familiar with data structures and algorithms
- Writing fast, memory safe, low level code

Communication

- Typing speed of over 80 words per minute
- Reading / writing technical documentation
- Project work with multidisciplinary teams

Electronics

- Verilog, Vivado, and FPGA programming
- Operating mixed signal oscilloscopes
- Electronic design with Kicad, LTspice, & paper
- Analog & digital circuit design and analysis
- Design with nonlinear circuitry / op amps
- Familiarity with DSP techniques and FFT
- Knowledge of communications techniques
- Integrated hardware / software system design
- Troubleshooting complex integrated systems

EMPLOYMENT

Utah State University Event Services

2021

Audiovisual Event Technician

Logan, UT

- Communicated with others to enable events across a large college campus

Fairfax County Public Schools

2018 - 2020

Senior Student Technician

Fairfax, VA

- Worked events effectively for hundreds of hours and secured promotion

EDUCATION

Thomas Jefferson High School for Science and Technology (TJHSST)

Class of 2020

Electrical Engineering Focus

Alexandria, VA

- **Coursework:** Electronics Research, Microprocessors, Computer Science, Technical Theater

EXPERIENCE

STARK (Open Source CAD Prototype)

2020 - Present

- Designed and implemented a new Lisp dialect with concurrency primitives and novel data structures
- Created a 2D renderer linked to a Lisp interpreter, using Rust and the Vulkan API, from scratch

The Grid (Custom LED Display Board)

2019

- Led a team to build a large physical, software, and electronic system of my design, under budget

TJHSST Theater Arts

2017 - 2020

Lighting Engineer, Lead Set Designer, Architect

Alexandria, VA

- Facilitated manufacture of large movable set pieces for four major productions
- Authored manual on spotlight operation for future student technicians