

Alex M. Harry

Computer engineer with a robust foundation in math and science. Proficient in hardware design and code optimization with experience at Northrop Grumman on hardware security. Aspiring leverage my expertise in the role [role] at [company].

EDUCATION

Rochester Institute of Technology

2019-2024

Bachelor of Science in Computer Engineering & Computational Mathematics

Advanced Courses

- Memory Centric Computing
- Graph Theory
- Interface and Digital Electronics
- Mathematical Modeling

Key Projects

- **n-Dimension Optimization** Implemented C++ program to find global max/min on a domain of data using Gröbner basis, and eigenvalues of the companion matrix to solve for roots of the gradient; written on jetson nano using the JetPack Linux environment
- **Soft MIPS** Wrote VHDL pipelined processor and a Java MIPS32 compiler
- **SPICE PIM Architecture** Designed LUT processor in memory architecture using LTSPICE and compared performance to other PIMs

WORK HISTORY

Northrop Grumman

Systems Engineer

Baltimore, MD
01/22 - 08/22

Key Projects

- **NG SecMon** VHDL hardware security logic used to monitor native channels interfaced by AHB
 - Used Xilinx 7-Series FPGA to for bitstream validation
 - Implemented ground up technologies such as watchdog timers
- **NIST Cybersecurity Mapping Interface** NIST vulnerabilities correlated to CERT attack patterns in an interactive webpage format for to validate source code checker coverage
 - Used webscraping to read in data from NIST, CERT, and Sonar Source documentation
 - String processing to correlate the data sets and map relationships
 - Use of HTML/CSS/JS to make interactive tree structures that empowered limb trimming, selecting root node, data filtering, and source correlation

Startup Accelerator

Founder

Rochester, NY
05/23 - 08/23

Built a business plan informed by customer discovery interviews with a seed round presentation and product R&D

Key Projects

- **C++ Render Engine** Engineered a 3D rendering engine in C++ with SDL2 integration, demonstrating advanced programming and system design skills
 - Self motivated project requiring significant independent research
 - Significant use of class structures and hierarchy design

Contact

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Skills

Programming

C/C++, Linux, Make, GDB debug tools, CUDA, OpenGL, Matlab, HTML/CSS/JS, Java, ARM, MIPS, Code Optimization

Hardware

VHDL, ZYNQ & 7-Series FPGA, MCU & μ Processors, Jetson Nano, Oscilloscope, 3d-printing

CAD

Blender, Fusion 360, Rhino & Grasshopper

Interpersonal

Leadership, Presentation, Teaching, Project Management

Security Clearance

Northrop Grumman: DoD Secret

Extracurricular

Eagle Scout 2018

FRC Robotics