

Samuel R. Ferguson

Electrical and Computer Engineer

Email: samferguson18@outlook.com Phone: (815)-541-2118

Portfolio Website: samsportfolio.info Blog: samsspiel.com

Education

Master of Engineering: Electrical and Electronic Engineering, Iowa State University, August 2021-Present, GPA: 3.67/4.0

Bachelor of Engineering: Electrical and Electronic Engineering, Iowa State University, August 2016-May 2021, GPA: 3.42/4.0

Certifications: FE Electrical and Computer

Graduate Coursework

Deep Learning Theory & Practice (AI)	Network Security & Protocols	Systems Engineer & Project Management
Advanced Data Storage Techniques	Systems Engineering & Analysis	

Undergraduate Coursework

Electronic Circuits and Systems	Signals and Systems (MATLAB)	Integrated Electronics
Digital Logic Design	Communication Systems (MATLAB)	Digital VLSI Design
C Programming	Embedded Systems Programming (C)	Computer Organization & Design (VHDL)
Object Oriented Programming (Java)	Embedded Systems Design	Energy Systems & Power Electronics
Software Data Structures (Java)	Electromagnetic Fields & Waves	Engineering Economic Analysis
Probability Statistics	Technical Writing & Communication	

Work Experience

Software Engineer II – Automated Test Equipment in Aviation, Garmin International Inc., June 2021-Present

- Collaborated with Embedded Software Engineers, Hardware Engineers, Project Managers, and Process Engineers to create automated testing equipment and software to support the development/production of safety critical avionics (DO-178).
- Designed high speed applications for embedded development and analysis of avionic equipment.
- Created scripts to automate integrity/version checks of the software development process.
- Supported the production of multiple aeronautical modules. Including: controllers, data concentrators, traffic collision avoidance systems, displays, and autopilot.
- Active participant and volunteer in GPS Vets organization for helping veterans and other causes.

Test Electronics/Controls Engineer Co-op, Kinze Manufacturing Inc., May 2019- December 2019

- Performed ESD and environmental testing on electronic products.
- Created thorough documentation on user guides and testing procedures on legacy and future products.
- Designed and implemented test benches for electronic products.
- Developed a data acquisition device for analyzing LINbus and proprietary control system messages.
- Created multiple software applications for CANbus, LINbus, ISObus, and MUXbus control system analysis and sensor data analysis.

Squad Leader (E6) - Infantry Staff Sergeant, Iowa Army National Guard, May 2017-May 2023

- Lead and mentored a squad of two teams consisting of four Soldiers each.
- Ensured welfare and readiness of Soldiers both inside and outside of their time of duty.
- Conducted training plans and classes to prepare and maintain readiness throughout the organization of 120 Soldiers.
- Served as Additional Duty Safety Officer by conducting deliberate risk-assessments and instilling proper risk mitigations.

Skills

<u>Coding</u>	<u>Programs</u>	<u>Experience With</u>
Python	<u>Circuit & PCB Design</u>	Soldering (including SMD)
C & C++	NI Multisim & Ultiboard	Embedded System Development
Verilog & VHDL	Altium Circuit Maker	Arduino & TI Launch Pad
MATLAB	<u>IC Design & Simulation</u>	PCB Design
Assembly	Cadence - Virtuoso, Innovus,	3D CAD & Printing
Java	& Encounter	ASIC Layout, Design, & Simulation
HTML, CSS, JS	<u>Simulation</u>	FPGA programming
SQL	MATLAB & Simulink	Serial Interfaces: SPI, I2C, RS-232/485, Ethernet (TCP & UDP), ARINC429, CAN, and UART
Batch, Shell, & Bash	LTSpice/PSpice	Web Development
	PSSE	
	Modelsim	
	<u>3D CAD</u>	
	Solid Works	
	<u>Version Control</u>	
	Jira & Git	
	<u>FPGA Development</u>	
	Xilinx - Vivado & Vitis	
	Intel Quartus	
	<u>Software Development</u>	
	NI LabVIEW & Teststand	
	Anaconda (Python)	
	Visual Studio	
	Linux OS	
	<u>Web Development</u>	
	Apache2, NGINX, Django, & Docker	

References Provided Upon Request