Samuel Witte

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Education

BSE Electrical Engineering	University of Iowa, Iowa City, IA	Expected Dec 2024

Computer Track(EEc)   Focus Area of Computer Hardware   Mathematics Minor

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Experience

Electrical Design Intern, SSC Engineering, Inc.   Chesterfield, MO   Dec 2021 – Aug 2022
- Programmed and maintained internally used automation scripts written in Python and PowerShell to save over 40 hours monthly; deployed across systems company-wide using external script deployment software
- Designed electrical layouts for commercial buildings with Revit and AutoCAD to address daily client specifications
- Enabled teams of up to 4 to complete individualized work, followed by whole-team validation to ensure quality and execution of our services

Undergraduate Computer Engineer, University of Iowa   Iowa City, IA   Feb 2023 – Present
- Worked in association and collaboration with NASA and University research groups on numerous projects.
- Developed ground support computer, utilizing LVDS (Low Voltage Differential Signal) and the CCSDS protocol for data downlink from sounding rockets and associated data collection systems.
- Utilized MATLAB and Raspberry Pi to display ADC outputs sent via SPI.
- Programmed Python GUI which interfaces with various lab equipment via SCPI and PyVISA.
- Prototyped deployable portable magnetic field alert system for placement around sensitive equipment and to test tools before entering sensitive work area.
- Wrote Verilog modules and testbenches for various projects.

Teaching Assistant for Intro to Digital Design University of Iowa   Iowa City, IA   Aug 2023 – Present
- Led biweekly lab section, held office hours and provided assistance to students, graded assignments/exams

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Projects

HACKUIOWA	Placed 3rd out of 77 teams in a hackathon. In 24h, developed an art application complete with generative AI tools and a full suite of art tools which utilizes TensorFlow and ClipDrop API.
Lab Equipment GUI	UI that interfaces with lab equipment such as power supplies and function generators via PyVISA in order to control and test flight hardware.
HPR Flight Computer	Records sensor data in-flight for analysis post-flight using an RP2040 microcontroller. Developed and assembled custom PCB. Practiced BOM management, version control, PCB layout and design, and collaborating with others.

Leadership

President - AIAA University of Iowa Chapter (High Powered Rocketry)   May 2022 – Present
- Organize, coordinate, and prepare material for weekly meetings, events, and competitions
- Flight avionics engineer/lead and overall electronics team lead
- Write grant proposals, ongoing design reports, and receive grant funding

Executive Assistant - AIAA University of Iowa Chapter   Aug 2021 – May 2022
- Project lead for competition rocket, including design and assembly; assisted with logistics and meeting plans

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Skills

Python   Verilog   Java   C++   CUDA   Altium Designer   Git/VCS

TensorFlow   Generative AI   Fusion 360   Powershell   SMD/TH Soldering   Revit   AutoCAD