Samuel Witte

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Education

University of Iowa – Bachelor of Science in Electrical Engineering Expected Dec 2024

Experience

Avionics Intern, ispace technologies US – Denver, CO June 2024 – Aug 2024

- Utilizing Altium Designer, designed ground support hardware for Apex 1.0 lander and M3 (and onward) basing design decisions on both existing and new requirements
- Completed PCB layout work on 10-layer network interface circuit card assembly containing over 400 components and includes technologies such as PCIe and M.2
- Contributed to NASA's CLPS initiative through support equipment design and testing
- Created block diagrams, wrote comprehensive tests and internal and external documentation, and submitted purchase requests for components
- Participated in design reviews and provided feedback to improve project outcomes
- Collaborated effectively with multiple teams of engineers on various projects

Undergraduate Computer Engineer, University of Iowa – Iowa City, IA Feb 2023 – May 2024

- Collaborate with NASA and University research groups on numerous projects including TRACERS
- Utilized MATLAB and Raspberry Pi to display ADC outputs sent via SPI
- Created a ground support computer that uses the CCSDS protocol and LVDS (Low Voltage Differential Signal) for data downlink from sounding rockets and related data collection systems
- Prototyped deployable portable magnetic field alert system intended to be used around sensitive equipment and to test instruments before entering sensitive work areas
- Wrote basic Verilog modules and testbenches for various projects

Electrical Design Intern, SSC Engineering, Inc. – Chesterfield, MO Dec 2021 – Aug 2022

- Built internally used automation scripts written in Python and PowerShell to save 40+ hours monthly
- Deployed scripts across systems company-wide using external script deployment software
- Designed electrical layouts for commercial and healthcare facilities using Revit and AutoCAD to satisfy constantly changing client specifications and requirements

Projects

High-Powered Rocketry Flight Computer

- Recorded sensor data in-flight for analysis post-flight using an RP2040 micro-controller
- Designed, developed, and assembled custom PCBs using Altium Designer

HACKUIOWA AI Drawing Program github.com/max-proj17/Dubious-Studio

- Placed 3rd out of 77 teams in a 24 hour hackathon
- Created an art application using TensorFlow and the ClipDrop API that includes a comprehensive set of art tools and generative AI tools to accelerate and enhance artists' workflows

Skills

Languages: Python, AVR Assembly, C, C++, Java, Verilog, Powershell
Design Tools: Altium, KiCAD, Thonny, Fusion 360, Git, VCS, TensorFlow, Revit, AutoCAD, Soldering
Technologies: I2C, SPI, FPGA, UART, MQTT