Kyle R. Hess

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Professional Experience

09/17 - Present | Electrical Engineer | Gladiator Technologies & LKD Aerospace

Hardware, Firmware & Software

- Develop and debug firmware on 32-bit ARM processors for IMUs and Inertial Navigation Systems (INS)
  - Support new product development innovations as well as existing firmware bug fixes
  - Prototype new hardware, sensors, and embedded algorithms to advance our product performance
- Create and manage electrical schematics and circuit board layouts with OrCAD
- Helped write and integrate a new Extended Kalman Filter into an INS/GPS product

Product Development & Quality

- Oversee new product development at every stage from concept, qualification, and release
  - Track all product development progress through phase-gates per AS9100D QMS
  - Write production work instructions ranging from device assembly to end-item testing
- Support our automated production test software (custom Windows applications)
  - Maintain legacy product testing capabilities, improve upon existing code, and merge innovations

Sales Support & Documentation

- Support customers with application engineering challenges both remotely and directly
- Handle all software maintenance for our existing Windows SDK package
- Write and maintain product User Guides, Datasheets, Technical Summaries and Reference Manuals

Data Analysis & Simulation

- Perform data analysis with MATLAB & Python for product performance analysis and production statistics
- Create and use custom simulation tools to evaluate IMU/INS performance in post-processing

06/16 - 09/16 | Intern | BCE Engineers Inc.

- Revised building electrical plans to NEC specifications using AutoCAD
- Designed indoor/outdoor lighting layouts in accordance with IES standards

Skills & Abilities

Electronics: Experience with SPI, UART, RS-485, I2C, & USB interfaces, schematic design, PCB layout, CAD/EDA library management, and soldering (SMT & THT)

Lab Equipment: Oscilloscopes, DMMs, function generators, and handheld RF analyzers

Software: KiCAD, Visual Studio, OrCAD, Autodesk Eagle, LTSpice, NI Multisim, AutoCAD

Programming: C (Embedded), C++ (MFC), C#, MATLAB, Python, Git, Arduino, and System Verilog

Personal Projects

Custom racing drone flight controller (ongoing)

A custom controller built around an ARM Cortex M-4. Utilizes an IMU, barometer, and GPS receiver. A PID loop runs at 1 kHz to control four ESCs/motors.

Brushless DC Motor Driver (04/17)

The final product was capable of driving a 24 V brushless DC motor with up to 9 A.

Education

University of Washington, Seattle | Bachelor of Science Electrical Engineering (2017)

Concentrations: Power Electronics, Motor Drives & Large-Scale Power Systems

Olympic College, Bremerton | Associate of Science (2015)