Kyle R. Hess

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Professional Experience

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

- Develop and debug firmware on 32-bit ARM processors for IMUs and Inertial Navigation Systems
  - Supported new product development innovations as well as legacy firmware
  - Prototyped new hardware/sensors and discrete DSP algorithms
  - Helped integrate a new Extended Kalman Filter algorithm into an INS/GPS product
- Oversee new product development from concept to completion
  - Collaborated with all departments to ensure our newest products were feasible in all aspects
  - Wrote production work instructions from device assembly to end-item testing
  - Tracked all development progress through phase-gates per AS9100D QMS
- Create and manage electrical schematics and circuit board layouts using OrCAD
- Support automated production test software (custom Windows applications)
  - Maintain legacy product testing capabilities, improve upon existing code & merge innovations
- Support customers with application engineering challenges both remotely and directly
  - Handled all software maintenance for an existing Windows SDK package
- Perform data analysis with MATLAB & python for performance analysis and production statistics
- Write and maintain product user manuals, datasheets, and reference manuals

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 & CAN bus 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 flight controller for a racing drone (ongoing)

The controller was built around an ARM Cortex M-4 and receives input from a radio transmitter, IMU, barometer, magnetometer, and a GPS receiver. A PID loop runs at 1 kHz to control four ESCs/motors.

Constructed Brushless DC Motor Driver (04/17)

I consolidated a previous motor controller design onto a small PCB for an inverted pendulum project. The final product was capable of driving a 24 V brushless 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)