

# Kyle R. Hess

Bellevue, WA 98004 | [kyleRhess.github.io](https://github.com/kyleRhess) | [hessk2@uw.edu](mailto:hessk2@uw.edu)

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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

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## 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

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## 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.

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## 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)