

ALEXANDER HOPPE

✉ alexander.hoppe@students.olin.edu 🌐 alexandrehoppe.com ☎ 2063108108 in /in/æhoppe 📄 æhoppe

Olin College of Engineering ECE grad, May 2019. Looking for hardware development roles in embedded systems. I like bringing boards and boxes to life.

EXPERIENCE

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| Sept. 2015 to Current | Olin Electric Motorsports · Electrical Team Lead, Senior Electrical Engineer <ul style="list-style-type: none">- Developing lasting knowledge transfer systems for historical designs, running documentation, and onboarding sessions- Designing, fabricating and testing custom CAN-networked AVR-core embedded systems PCBs- Successfully led electrical system design through passing tech and racing at Formula SAE Electric 2017- Collaborating on both high power and digital electrical system architectures- Leading third-iteration custom BMS design and supporting HV battery system integration |
| May 2018 to Aug. 2018 | SpaceX · Avionics Intern <ul style="list-style-type: none">- Designed, prototyped and tested an ARM-based CAN-enabled interface PCB for a new sensing technology- Developed functional prototype firmware in C++ and test software in python- Collaborated with mechanical engineers for system integration and flight-like design |
| May 2017 to Aug. 2017 | Synapse Product Development, Inc. · Electrical Engineer <ul style="list-style-type: none">- Reduced device unit cost and power consumption and investigated Part 15 EMC compliance issues in validation tests- Analyzed and tested custom single-cell lithium battery solutions for handheld consumer electronics- Identified solution space for IMU technology and provided design recommendations to clients |
| May 2016 to Aug. 2016 | Onshape · Software Development Intern (Assemblies) <ul style="list-style-type: none">- Worked on the full production stack from geometry solvers in C++, through Java servers to JavaScript UI improvements- Implemented 2 client-facing features: Parallel mate relation and Mate dimension display- Fixed a priority bug on both client UI and server application |

PROJECTS

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|-------------------------|---|
| Sept. 2016 to Current | Third Wave Coffee <p>I'm a self-taught barista and proprietor of a specialty coffee shop I run in my dorm at Olin.</p> |
| Mar. 2018 to May 2018 | BombSquad - Elecanisms 2018 <o.olin.build/bombsquad> <p>A real-life, modular implementation of the popular VR game Keep Talking and Nobody Explodes, running on 7 PIC24FJ MCUs connected with I2C.</p> |
| Nov. 2017 to Dec. 2017 | 8-bit MIPS CPU <p>An 8-bit RISC CPU written in Verilog that used a reduced subset of the MIPS ISA for Computer Architecture Fall 2017 at Olin.</p> |
| Sept. 2017 to Nov. 2017 | ARM Cortex M7 Data Logger <p>Custom revision 0 PCB design for an ATSAME70N19 Cortex M7 microcontroller.</p> |
| Oct. 2016 to Dec. 2016 | ReFilament <o.olin.build/refilament> <p>A 3D-printing filament recycling system built as the final project for Principles of Engineering</p> |
| Jan. 2016 to May 2016 | Morse Code Internet in a Box <p>A fully student-designed and built seven-layer OSI model of the internet based on Morse code communication</p> |

SKILLS

ELECTRICAL	Circuit Prototyping, PCB Design, Embedded Systems Design, KiCAD, Altium Designer, Atmel AVR, Circuit Debugging, LTSPICE, HV Power Systems Integration, Verilog, Electronics Validation Testing
PROGRAMMING	Python, C++, C, MATLAB, Git, Test Driven Development, Java, HTML & CSS, Flask
MECHANICAL	Onshape, SolidWorks, CNC Router, Laser Cutting, 3D Printing, Manual Milling, Surface Grinding, Heat Treatment
WORKFLOW	GitHub, Confluence, JIRA, Asana, Trello