

user@desktop:~\$ **Vaughn Kottler** 

Embedded Systems Engineering & Mechatronics, Full Stack Web Development & IoT

Education: **UW-Madison** (Dean's List 5/6 Semesters, Summer 2016) GPA: 3.49

- Majors: Computer Engineering (Degree Program), Computer Science
- Graduating: **May 2019** (3 semesters remaining)

Work: **SpaceX** ([Software Engineering Intern](#)) *Current*

- LabVIEW automation & continuous integration distributed as a Python package

Extreme Engineering Solutions ([Associate Embedded Engineer](#)) *Spring - Fall 2017*

- Bootloader development for non-Intel architecture systems ([U-Boot](#))

State Farm ([Software Development Intern](#)) *Summer 2016*

- Web app. with Spring Framework + Maven & Angular.js 1.X, first TDD

UW-Madison College of Engineering ([ULC Campus Tutor](#)) *Fall 2016 - Present*

- Intro. programming, circuits, & digital logic courses

UW Plasma Physics (Student Hourly, Computing) *Spring 2015 - Spring 2016*

- My introduction to web development, system administration, PHP and MySQL

Skills (CE): **Schematic Design & PCB Layout, Processor Driver/Firmware Development, Verilog:**

- ARM/MIPS/AVR/PPC development in assembly and C with pre-compilation configurations
- Experience setting up make-based build systems & can acclimate to large codebases
- Altium & Eagle schematic and PCB layout experience, some Spice simulation exp.

Hardware Communication Protocols: *U[~~S~~]ART, I2C, CAN, SPI, USB, Ethernet, PCIe*

- Non-blocking I/O & RTOS, CANopen & custom application layer protocol experience

Hardware-Level Software Debugging: *Logic Analyzers, Oscilloscopes, Multimeters*

- Proficient with debugging tools, aware of when to use (and how to not break them!)

Math & Signal Processing: *Kalman filtering & quaternions (gyro. + accel. work)*

Skills (CS): **Web Development (Full Stack):** *Responsiveness, Scalability, CI*

- Java EE, JavaScript/Node.js, PHP, SQL, HTML & CSS, Go
- Frameworks: Spring, Angular [+Material], Bootstrap, none / from scratch

DBMS & System Administration: *Ubuntu, CentOS/RHEL, [De|Rasp]bian, Windows Server*

- Vagrant, Ansible, Docker & Bash script automation, mailing configs
- Apache/NGINX configs (mult. vhosts), DNS with SSL administration
- [My|Postgre]SQL, MongoDB, CouchDB, Redis (as user and admin.)

Programming: *Prefer C/C++, Python, Java | Vim @ 100% duty cycle ([.vimrc](#))*

- Parallelism, avoiding race conditions, custom HALs and drivers, web APIs
- Multi-platform build systems, make & higher-layer abstraction, GDB-style debugging

Involvement: **Badgerloop** | **Software Development Club:** *Extremely demanding, long-term projects*

- (Former) Electrical Tech Director, Software & Controls Lead | Technology Chair

Awards:

Badgerloop - Innovation Award (x2), Design Weekend 3rd Place
UW Madison - Intro to IoT Hackathon - First
HackIllinois - Best Use of Intel's Microcontrollers - Third
JP Morgan Chase Code for Good - Best overall commit
HuskieHack - CDK Evolution Award, Beyond the Assembly Line
WildHacks - Watchdogs 2 Device Security Award (MLH Sponsored)

