

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

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

Education: **UW-Madison, Fall 2018** (Dean's List 5/7 Semesters, Summer 2016) GPA: 3.45
- Majors: Computer Engineering (Degree Program), Computer Science

Work: **SpaceX** ([Software Engineering Intern](#)) *Fall 2017, Summer 2018*
- Responsive user interfaces (web stack) for next generation ground systems
- 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:**
- x86/ARM/MIPS/PowerPC development in C/C++ (some asm.) with modern build+test tools
- Configuring [GNU make](#), [Bazel](#) and custom build systems, acclimating to large codebases
- Altium & KiCad 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):** *Performant and Reliable | CI + DevOps Automation*
- Frameworks: Polymer, Angular [+Material Design], Bootstrap, none / from scratch
- Java EE, JavaScript/Node.js, PHP, SQL, HTML5 & CSS3, Go, Python
DBMS & System Administration: *Gentoo, Ubuntu, CentOS/RHEL, [De|Rasp]bian*
- 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+tmux @ 100% duty cycle ([.vimrc](#))*
- Avoiding concurrency pitfalls, custom HALs and drivers, coherent architectures
- Multi-platform software ecosystems, GDB-style debugging, efficient workflows (git)

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)

