**Arick Grootveld**

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**Education:**

*2016 – 2020*  **Bachelors of Science |** **Electrical Engineering | Western Washington University**

Embedded Electronics Concentration

Minors: Math, Materials Science

*2013 – 2015* **Associate of Arts | Everett Community College**

**Professional Experience:**

*Spring 2018-Current* **Web Developer**

* Working with a team of developers to produce high quality software and web apps in a timely manner while meeting our users’ needs
* Writing code for the front end of applications (Vue.js), for the backend of applications (MongoDB, Node.js), automated launch applications (Bash scripting)
* Primary QA developer for applications, writing tests in various frameworks (Karma, Mocha, Chai, Nightwatch), oversaw development of test suites for major apps

**Skills:**

* **Mathematics:** Linear Algebra (SVD’s, Transformations, Eigen-Spaces), Differential equations, Iterative Problem Solving Techniques, Statistics (Normal Distributions, t-distributions)
* **Programming Languages:** Javascript (Experienced), MatLab (Experienced), Verilog (Proficient), Bash (Proficient), Python (Proficient), C (Novice), C++ (Novice), Java (Novice),
* **Industrial Skills:** Materials Science (Testing, assessment and processing), Microsoft Office suite of programs, Git Version Control, Agile software methodologies, Test Driven Design, Unit Testing Techniques
* **Electronics:** EE computer programs (Multisim, Altium, Vivado, etc.) Basic electronics equipment (Oscilloscopes, DMMs, etc), AC and DC circuit analysis, Semiconductor physics, Embedded systems, RTL hardware design, Continuous Systems (LTI system analysis), PLC’s and Ladder Logic, Software Defined Radio (SDR),

**Projects:**

* **Hydroponics system:** Built a hydroponics system with the assistance of a professional, out of household parts, and put sensors on it to monitor sunlight, air temperature, and humidity. Uploaded the information from sensors to a website designed to allow observation of plants from anywhere.
* **Bit banging song:** During my embedded systems class I bit banged out a song in assembly using PWM on the pins of a K22 board. I also built an audio system to complement my code, which used low side switching to allow the output from the board to power the speaker despite the low current limit of the K22.
* **Marine Technology Club:** I am currently the chair of the marine technology club at my University. This will be the first time in over 4 years that my club will be competing in the MATE competition. This often involves doing fundraising, and outreach in addition to delegating. In addition to running the club, I oversee all of the engineering that goes into our ROV. This includes power systems, communications links, motor controls, waterproofing, and arm control.
* **AC to DC power adapter:** Used various diode configurations and a step down transformer to create circuits necessary to create a working AC to DC converter. Diode configurations included a full wave rectifier, a peak rectifier, and a Zener diode configured to be a voltage limiter. This created a clean 5V supply that could be used to power standard CMOS digital logic.