**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:**

*Summer 2015* **Day Laborer for City of Everett Public works | 6133 Lake Chaplain Rd; Monroe; WA; 98201 |**

* Worked on maintenance for an industrial facility, maintaining equipment and infrastructure. Primarily worked with landscaping equipment and devices for cleaning the facility
* Experience with a corporate setting, working under deadlines, and keeping up with day to day tasks
* Cooperated with a team of skilled professionals to complete job in the most efficient manner

**Skills:**

* **Mathematics:** Linear Algebra (SVD’s, Transformations, Eigen-Spaces), Differential equations, Iterative Problem Solving Techniques
* **Programming Languages:** Python(Proficient), Java (Novice), MatLab (Experienced), ARM assembly(Proficient), Verilog (Proficient)
* **Industrial Skills:** Materials Science (Testing, assessment and processing), Microsoft Office suite of programs
* **Electronics:** EE computer programs (Multisim, Altium, Vivado, etc.) Basic electronics equipment (Oscilliscopes, DMMs, etc), AC and DC circuit analysis, Semiconductor physics, Embedded systems, FPGA hardware design, Continuous Systems (LTI system analysis), PLC’s and Ladder Logic, Antenna design,

**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.