# Colton Williams

coltontfw@gmail.com
778 – 240 - 9616

## TECHNICAL SKILLS

**Software**
- HTML5/CSS3/Javascript
- React.js
- C
- Verilog
- Git

**Hardware**
- PCB Design (Eagle/Altium)
- Soldering
- Circuit prototyping
- Basic lab equipment

## ACADEMIC STATUS

**UBC Vancouver**
*Bachelor of Applied Science*
*Electrical Engineering Option*

## TECHNICAL PROJECTS

### Personal Website                                        May 2019 – Present
- Over the past few months, taught myself HTML/CSS/Javascript and React
- Built a responsive portfolio web application complete with a homepage and about, portfolio, and contact sections
- Created all components from scratch, including an interactive, horizontally scrolling project display and contact form
- Polish such as smooth scrolling to sections through a navigation menu, hidden navigation menu while scrolling, and custom components for different screen sizes, ensuring easy readability

### JFET Boost Pedal                                        July 2019 – Present
- Currently designing a simple JFET boost guitar pedal for tube-like boost/light gain tones with the possibility of adding multiple gain stages
- 9V power supply stepped up to 23.5V using a switched-mode power supply
- Attenuation control for boost level

### LipSync Evolution                                 September 2017 – April 2018
- As part of a six person team, updated the pre – existing LipSync by Neil Squire Society, a mouth operated computer mouse emulator for quadriplegic persons, to include a Bluetooth option as well as increased functionality
- Overhauled the existing PCB to accommodate a new, Bluetooth compatible microcontroller
- Added extra pins and an additional power port to the PCB for future adaptations
- Wrote a significant portion of the technical documents to be delivered to Neil Squire Society; mainly responsible for the validation document

### Two Degree of Freedom Haptic Interface            January 2017 – April 2017
- In charge of the control systems within a three person team, in which we built a functional haptic interface using two linear actuators
- Designed, built, and tested a dual H-bridge circuit to control speed and direction of two motors, and soldered the finished design to a prototyping board
- Programmed an Arduino microcontroller to sense the position of an arm attached to a rotary motor, and added closed-loop feedback to simulate a virtual wall when the arm reaches a certain angle
- Performed various tests and measurements on the DC rotary motor, and imported/plotted the results with MATLAB to calculate certain motor parameters
- Built a Simulink model of a DC motor to compare with our behavior, using torque and voltage differential equations, as well as the step response of the motor to find certain parameters
- Implemented our electronics onto a PCB, using Altium Designer, to be used in the final design of our device

**Wireless RC Car Robot**                                    **February 2016 – April 2016**

- Designed the transmitter circuit of a wireless RC car with a partner, as part of a six-person team
- Used a Wii nun chuck, which came with an XY position sensing program, and a C – programmable microcontroller to send binary instructions out of a signal generator
- Constructed a circuit which would supply a large (~300V) sinusoidal voltage across an inductor, which was ANDed with the output of the signal generator, sending binary instructions via an induced magnetic field
- Finished the working, bugless project on time, meeting all requirements and constraints, resulting in a grade of 90 for the course

## WORK EXPERIENCE

**Kingsley Amplifiers**                                    **February 2019 – Present**
*Pedal Assembler*

- Wire, solder, test, and debug up to two entirely hand wired, tube amplifier pedals a day
- Quickly improved my soldering skills to a high level to meet strict build quality standards
- Refined analog circuitry debugging abilities through having to find and fix various problems

**Folklore Contracting**                                    **May 2018 – August 2018**
*Tree Planter*

- Planted 130,000 trees in Northern BC this summer, earning the number one performance from a first year planter, and the 13$^{th}$ spot in a camp of about 50 planters
- Worked consistent 12 hour days, on a four on / one off schedule, in any conditions from snow to blistering heat for three full months, without missing a single day

**Earls Langley**                                    **July 2011 – February 2019**
*Line Cook/Expediter/Server*

- Greatly increased my interpersonal skills through becoming a server, applying my knowledge of the food and company to deliver an engaging experience to every guest
- Adapted to, and learnt the entire constantly changing menu throughout my work experience, and continually made an effort to stay up-to-date on changes to ensure the highest food quality
- Lead the back of house (kitchen team) when closing the restaurant, which developed fast problem solving skills from often being required to come up with solutions without the presence of a superior
- Took in a large amount of orders every night, organizing and cooking them in a timely matter while communicating with fellow cooks and servers about important matters in the moment
- Integrated into multiple vastly different teams, and complete changes in management during my work experience, increasing my ability to adapt to many different work/management styles

## ACTIVITIES AND INTERESTS

- Rock Climbing/Mountaineering – Climbed the entire Stawamus Chief in Squamish and numerous other large climbs in the surrounding area, and recently attempted trips involving extensive glacier travel on steep slopes
- Guitar and music – Played guitar for over ten years, and have learnt instruments such as piano, trumpet, and drums
- Travel – Visited over 15 countries in my life, and spent three months backpacking Europe and Thailand
- Cooking – Developed a passion for cooking through my line cook experience; typically making most meals from scratch