604 360 8807
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Tea Jay Macalanda-Ung

WORK EXPERIENCE

SQM Group Inc. **May 2016 - Present**
Web Developer / Programmer

- Automated a report-generating desktop application in .NET framework. Made to alleviate the need for manual data entry and data validation for quarterly/bi-yearly/year-end financial, benchmarking and employee reports.
- Developed a live feed social media web application using Twitter and Instagram APIs with a curation feature and using oAuth 2.0 for the annual industry wide conference held by SQM.
- Maintained and optimized website performance (increase in website speed by 14%) and implemented an SEO campaign backed by Google APIs (Google analytics, Google Sheets, Firebase, Google Search Console).
- Implemented full site rebuild and redesign. Collaborated with a designer to migrate the website to a different CMS (Wrodpress to Concrete5). Developed back end using PHP. Developed front end using Bootstrap, LESS, HTML5 and ES6 Javascript.

PROJECTS

2-DoF Electronically Commutated Helicopter (https://youtu.be/KIokYSloVds**)** **April 2016**

- Designed a 12-pole brushless DC motor using engineering principles and Solidworks.
- Automated with PID control in C using C8051F38X microcontroller.
- Manufactured all parts using a waterjet cutter, 3D printer, created PCB using Altium.
- Collaborated with a team of 3 students as team lead with whom we delivered a report with all specifications, design processes and implementation, verification testing, and design analysis and synthesis.

Programmable Oven Controller **October 2015**

- Prototyped a circuit based around discrete ICs. The circuit included an automatic brushless motor fan to cool the system if overheated. All modeled in Circuit Maker and developed in assembly language.
- Implemented using 8052 microprocessor. This included three timers, an SPI (Serial Peripheral Interface), a user interface to enter a desired reflow profile, emergency abort specifications
- Created a digital thermometer using a thermocouple.
- Automated using python script to collect data. This included a chart plot to compare the outputted reflow profile and an automated email service that sent out the profile to the user.

Magnetic Tethering Rover **April 2015**

- Designed a framework and logic-blocks schematic in collaboration with one other student on to a development board using 2 servo motors, optoisolators, F38x controller, and an RL tank circuit for magnetic tethering. Created the chassis using sheet metal. Coded in embedded C.
- Created a 7-state machine where the controller implements tethering, move forward, reverse, turn right, turn left, parallel park, and a 180 degree turn.

Automated Sun-Tracking PV Solar Panel w/ iOS app (http://ow.ly/10E12P**)** **March 2015**

- Awarded “Top Hardware Hack” at nwHacks out of 350 participants (90 teams) in collaboration with a team of 5
- Designed and implemented optimized circuit for saving energy, including: H-Bridges, Pulse Width modulation, solar energy converter, optoisolators and a WIFI-communication module. Programmed in C++.
- Collaborated with 3D-printing professionals to design and create 3-axis gears that drove the solar panel.
- Presented the finished product at an expo accompanied with a short video.

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TECHNICAL SKILLS

Programming Languages

- C
- Javascript
- HTML5
- LESS / CSS3
- PHP
- Python
- VHDL / Verilog
- C#
- Assembly

Proficient Technologies

- Node.js & React.js
- Git
- AWS (EC2)
- Linux & Windows OS
- LAMP/LEMP Stack
- Matlab / R
- Circuit Maker & Altium (SPICE)
- CAD (Solidworks)

EDUCATION

University of British Columbia — September, 2014 – Anticipated 2019

Bachelor of Applied Science – Electrical Engineering

Langara College — January 2011 – May 2014

Double Major - Engineering Certificate & Associate of Arts in Psychology

ACTIVITIES AND INTERESTS

- Fluent in French (written and oral)
- Elementary Spanish speaking
- Learning about photography and videography
- Competing in Hackathons
- Captained a college level varsity AA basketball
- Dodgeball team captain for VDL (Vancouver Dodgeball League)
- Passion for MAKER Community and open source projects (Arduino / Raspberry Pi enthusiast)
- Interests in Social Media Marketing