EMMA XIE

MECHATRONICS ENGINEERING

email: emma.xie@uwaterloo.ca
mobile: 416.818.8610
web: eexie.github.io

PROFILE SUMMARY

- Extensive experience in buliding and testing electrical systems as part of the FSAE team
- Familiar with CAD software for schematic capture and mechanical design
- Advanced knowledge in full stack development
- Strong command of Git
- Diverse rapid prototyping projects with embedded systems (Arduino, Rasp Pi), 3D printing, and wearables (Myo, Oculus)
- Variety of manufacturing experiences on automotive chassis, suspension and aeordynamics components

RELEVANT SKILLS

C, C++, Python, Ruby, HTML5, CSS, Javascript, JQuery, Node.js, REST API, React, D3

EagleCad, Fritzing, Solidworks, Fusion 360, AutoCAD, MatLab

EDUCATION

Mechatronics Engineering.
University Of Waterloo
WATERLOO. SEP 2015-PRESENT

- Relevant courses: Material Sciences, Data Structures & Algorithms, Graphics, Circuit Theory
- Represented university at international design team competitions (FSAE) and national engineering conferences (ESSCO, CFES)
- Sat on the Women in Engineering committee as an Undergraduate Director

INTERESTS

Hackathons and conferences, photography, graphic design, augmented reality, Internet of Things, Blue Jays, movie soundtracks, foreign films, escape rooms

EXPERIENCE

Prototyping Engineer. Canon Innovation Lab
KITCHENER. SEPT 2016-PRESENT

- Prototyping high-fidelity hardware and full-stack software solutions as proof of concepts
- Presented prototypes and pitched products to executives from Canon North America and Canon Europe
- Developing on platforms including embedded systems (Arduino, Raspberry Pi), full-stack web apps, 3D CAD, iOS, and various Canon products

Dyno Harness Lead - Electrical System.
UW Formula Motorsports (FSAE)
WATERLOO. SEP 2016-PRESENT

- Redesigning power distribution of the fusebox and signal transmission of the engine control unit.
- Redrawing schematics of the dyno engine and main vehicle wire harnesses in EagleCAD
- Assisted in building and debugging the dyno, main, and data acqusition harnesses
- Analysed sensor readings with custom data logger to optimize driver and car performance, as well as validate designs
- Designing multiple electrical housing units in Solidworks

Innovation Engineer. Scotiabank Digital Factory
TORONTO. JAN 2016-APR 2016

- Explored and applied neural networks and deep learning philosophies to financial applications in Python using Tensorflow
- Initiated and maintained an internal blog series educating Scotiabank employee network on machine learning
- Scanned and reported on the FinTech ecosystem to executives

PROJECTS

Myophysio. Deltahacks 2016
MCMASTER UNIVERSITY. JAN 2016

- Developed an Android app for the Myo armband, allowing and reminding carpal tunnel patients to do physical therapy on-the-go
- Integrated Myo gestures, designed and implemented app assets, enabled push notifications
- Won Best Hardware Hack

Dryerase Stocks. Bostonhacks 2015
BOSTON UNIVERSITY. OCT 2015

- Used an Arduino Uno, a Raspberry Pi 2, and two stepper motors to plot stock market or bank account data on a dry erase board
- Designed and built mechanical assembly, calculated coordinate math, set up Raspberry Pi-to-Arduino data transfer
- Won Capital One API award.