EMMA XIE

MECHATRONICS ENGINEERING

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PROFILE SUMMARY

- Experienced in building and testing across platforms including web, mobile, virtual reality and microprocessors
- Diverse portfolio of electromechanical and software projects
- Applied experience in using CAD software for mechanical design and schematic capture

RELEVANT SKILLS

Python	C#	Javascript
3D Modelling	Soldering	JQuery
Solidworks	CNC Machining	Git
REST API	Fusion 360	Unity3D
Oculus Rift	Arduino	Raspberry Pi
Docker	Node.js	AngularJS

EDUCATION

Candidate for Bachelor of Applied Science (BASc).
Mechatronics Engineering.

UNIVERSITY OF WATERLOO. SEP 2015-PRESENT

- Represented university at international design team competitions (Formula Motorsports) and national engineering conferences (ESSCO, CFES)
- Relevant courses: Data Structures & Algorithms, Microprocessors & Digital Logic, Circuit Theory, Material Sciences

INTERESTS

Hackathons and conferences, photography, graphic design, augmented reality, rapid prototyping, Blue Jays, movie soundtracks, foreign films, escape rooms

EXPERIENCE

Rapid Prototype Developer. Canon Innovation Lab

KITCHENER. SEPT 2016-DEC 2016

- Advanced a VR camera simulation game using Unity (C#), supporting major functionalities on the Oculus Touch Controllers in place of gamepad
- Conceptualized and executed various hardware and software solutions, as proof of concepts
- Designed and 3D printed multiple solutions during prototyping process
- Developed on platforms including embedded systems (Arduino, Raspberry Pi), full-stack web apps, 3D printing, iOS, and various Canon products
- Demoed prototypes biweekly, frequently to executives from Canon North America

Dyno Harness Lead - Electrical System.
UW Formula Motorsports (FSAE)

WATERLOO. SEP 2016-PRESENT

- Redesigned the power distribution of the fusebox and signal transmission of the engine control unit.
- Analysed sensor readings with custom data logger to optimize engine performance during tuning, and driver performance during testing, as well as validate designs
- Assisting in building and debugging the pneumatic shifter board and vehical harnesses
- Designed multiple electrical housing units and suspension components in Solidworks

Innovation Specialist. 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

Touch Guitar

SOLO PROJECT. ONGOING

- Building an Arduino-driven guitar with a laser-cut acrylic body, and capacitive touch sensors
- An audio file plays while strings are touched, transforming any user into an amazing guitar “player”

Dryerase Stocks. Bostonhacks

BOSTON UNIVERSITY.

- 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.