ZOIE HOU

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EDUCATION

Engineering Science - Robotics
Bachelor of Applied Science, 2017-2021
University of Toronto | Toronto, ON, CA.

TECHNICAL SKILLS

Programming
Python, C, C++, Verilog, Assembly, MATLAB, ROS

Tools
Autodesk Fusion 360, AutoCAD, PSPICE, Simulink, Autodesk EAGLE, FPGA

Hands-on experience
Arduino, Circuitry design and soldering, sheet metals, woods, plastics, power and hand tools

Language proficience
English, Chinese Mandarin (TOCFL level C2 certified), French, and Japanese

HACKATHONS

UOFTHACKS 2019
-Built a two-person communication Virtual Reality game with Google's Firebase, Unity, and C++

UTEK 2019
-Programmed a implementation for autonomous robots to locate and sort packages in a Warehouse with Python

MAKEUOFT 2019
-Developed a wired Morse-code-sending device with pure mechanical components

UTRAHACKS 2018
-Prototyped an individual participation detection device with a facial recognition camera, and other mechanical components

ENGINEERING EXPERIENCES

Product Designer and Hardware Developer

Object Detecting Dispensing System | 2019

-Developed the electro-mechanical component of a mobile object-dispensing robot with wood, sheet metals, motors, and 3D prints, and integrated with the circuit and microcontroller components
-Created the engineering proposal for a R&D company's request of the autonomous robot

Product Software Developer

Speed Throw Device | 2019 - Present

-Programming a Speed Throw Knife practice device with Arduino Nano and C++
-Created the mechanical component with AutoCAD laser cutting, and Acrylic

Product Hardware Developer

Lighting and Timing Device | 2018 - 2019

-Developed and sold a Lighting and Timing Device for Quick Draw Knife Throwing Competitions with Arduino Mega and C++, poly-carbonate and acrylic enclosures, and circuits
-Created engineering reports that include requirements and testing protocols
-Presented product at Praxis II Showcase in University of Toronto

Product Developer

CAD-CAM User Interface | 2018

-Attempted to create a customized CAD-CAD program for CNC machines with C++ and Qt, and modifying two open-sourced CAD-CAM programs (Slic3r and Qcad)

Python Instructor Assistant

Airabbi Summer Camp Python Instructor Assistant | 2019

-Created content and curriculum with the instructors for teaching elementary and middle school students Python
-Participated in meetings to discuss feedback from the students and their parents to make suitable adjustments to lectures
-Assisted the instructors to carry out lectures, and came up with solutions for challenges that the students encounter

MANAGEMENT EXPERIENCES

Director of Marketing

University of Toronto, TechXplore Club, 2019 - Present

-Create outreach strategies to increase club awareness, finalize event dates and communicate related information through social media, website, and posters
-Increased the membership of the club by 10%