

BEN HUCKELL

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SKILLS

SOFTWARE

Advanced:

Python • C# • SQL • Java • Git

Proficient:

C++ • MATLAB • OpenCV • Keras
• TensorFlow • Linux OS

Familiar:

C • HTML/CSS • R • Latex

ROBOTIC/ELECTRICAL

Arduino • Raspberry Pi • STM32 •
Analog/Digital Circuits • Fanuc/Kuka
Robots • 3DExperience Robot Simu-
lation • Oscilloscope • Multimeter •
Breadboarding • Prototyping

MECHANICAL

OnShape • SolidWorks • AutoCAD
Electrical • Hand/Power Tools •
Machine Shop • Industrial Electrical
Panel Design/Construction

EDUCATION

BASc. - Engineering Physics University of British Columbia

Graduating: Dec, 2021 • Vancouver, BC
Mechatronics • Computer Science • 3.8 GPA

RELEVANT COURSEWORK

Principles of Software Construction
Computer Vision
AI/Machine Learning
Instrumentation Design & Robotics
Digital Systems & Microcomputers
Machine/Mechanical Design
Controls, Signals and Systems
Electricity & Magnetism
Classical, Quantum Mechanics
Technical Communication

INTERESTS/ACTIVITIES

Interests

Coding • Reading • AI/Machine
Learning • Investing • Theoretical
Physics

Activities

Basketball • Volleyball • Hockey •
Golf • Skiing

Volunteering

City of Edmonton River Watch •
Volleyball Referee • Edmonton Food
Bank • UBC Move-In Day

EXPERIENCE

Tesla, Inc. | Automation Controls Engineering Intern

January 2019 – April 2019

Fremont, California

- Implemented Structured Text, SCL, Ladder Logic on Allen-Bradley, Siemens, Beckhoff, PLCs to interface with production components, with a focus on code modularity, reusability, and documentation
- Introduced unit/regression testing in the software development process of Robot Function Blocks resulting in the early detection of bugs and the verification of their functionality
- Expedited the validation process for new production components by creating a dedicated testing area
- Developed a cost-efficient demonstration production cell using Fanuc and Kuka robots with the capabilities of an operating production cell

Steel-Craft Door Products Ltd. | Software Developer

May 2018 – August 2018

Edmonton, Alberta

- Created software systems using Visual Studio and C# to increase the ease with which repetitive tasks are managed and carried out
- Integrated Python scripts on a Raspberry Pi to export PLC data to Node-RED dashboard for remote monitoring purposes, and SQL database to log system data
- Developed PLC Ladder Logic for HVAC system control that was organized, maintainable, and documented

University of Alberta | Computer Science Intern

July 2016 – August 2016

Edmonton, Alberta

- Researched different programming languages used to solve the same problem; conducted a thorough analysis that looked at code runtime, readability, structure
- Delivered a poster presentation of my research results to over 100 students, colleagues, and faculty

STUDENT TEAM INVOLVEMENT

UBC Rocket | Avionics Lead - Spaceshot Sub-team

September 2018 – Current

Vancouver, BC

- Pursuing the Base 11 Space Challenge, which offers a prize to the first student-led design team to design, build, and launch a rocket to an altitude of 100 km
- In charge of overseeing all electronics work for vehicle and test stand, including meeting safety requirements
- Responsible for the successful integration of hardware and software, including custom PCB design with Altium Designer software and embedded C++ development with Teensy 4.0 microcontroller

TECHNICAL PROJECTS

Machine Learning Self-Driving Car Simulation

Python • OpenCV • Keras • TensorFlow • Linux OS • ROS

2019

Autonomous Robot Competition

C/C++ • STM32 • State Machine Design • OnShape • Prototyping • PID Control

2019

Fantasy Baseball Draft Optimization Software

Python • SQL • Visual C# • Web Scraping • Statistical Analysis • DB Design

2018

Personal Investment Portfolio

Python • MATLAB • R • Investment Analysis • Statistical Modelling

2018

More information about projects can be found at www.benhuckell.com