Tianna Hudak

3rd Year Engineering Physics

tianna.hudak@alumni.ubc.ca
(250) 203-7609
tianna-hudak

Programming

Java
C, C++
Python
MATLAB
LaTeX

Tools

IntelliJ, VS Code, Visual Studio
Jupyter Notebook
OpenCV, ROS, Gazebo
Linux, Windows, MacOS
GitHub
OnShape, SolidWorks
Microsoft Office

Coursework

Principles of Software Construction
Modern Software Design
Instrument Design & Robotics
Machine Learning & Computer Vision
Digital Systems & Microcomputers
Electricity & Magnetism
Introduction to Entrepreneurship
Technical Communication

ubc science co-op
T: 604.822.9677 | F: 604.822.9676 | science.coop@ubc.ca | www.sciencecoop.ubc.ca

Projects

2020 **LiteHacks Hackathon** Personal
- Placed 1st in 2020 LiteHacks Hackathon
- Developed an app idea that matches individuals working on personal projects with those who want to help based on desired skill-sets
- Currently beginning app prototyping and learning relevant skills

2019 **Virtual Parking Control Robot** UBC
- Used one hot encoding and convolution neural networks to perform character recognition from images, specifically license plates
- Gained experience using OpenCV, ROS, Gazebo, and Linux Command Line
- Implemented a driving technique using image masks, contours, and centroids in addition to pedestrian detection mechanisms with Python

2019 **Autonomous Robot** UBC
- Designed and built an autonomous robot capable of retrieving stones from varying post heights and returning them to storage
- Programmed the robot using PlatformIO in C++ implementing a state machine design for the arm mechanism

Read more about the robot here: Robot Website

2018 **Graphs, Networks, and Games** UBC
- Wrote a Java program, which implemented a graph interface using two different graph representations
- Developed several algorithms that used this interface for fun applications such as finding the center of the Marvel Universe
- Practiced robust testing strategies and achieved 100% method, line, and branch coverage

Education

2017 – 2022 **BASc, Engineering Physics** University of British Columbia
- 83.5% Average
- Deans Honour List Standing – 2017W, 2018W, 2019S, 2019W
- Ranked in the top 10% in the Faculty of Applied Science for 2018W
- UBC Major Entrance Scholarship Recipient

Work Experience

2019 **Research Assistant** Department of Mechanical Engineering, UBC
- Designed and carried out experiments to determine the effects of various parameters on oxide scale formation on steel
- Wrote a 27 page literature review paper as a framework for future experimentation

Volunteer Experience

2018 – 2019 **Engineering Undergraduate Society** UBC
- Held positions such as Orientation Leader, Spirit Representative and Eatery Representative