SAYEH OLOUMI YAZDI

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3rd Year Engineering Physics

EDUCATION

Bachelor of Applied Science - Engineering Physics Sept 2020 - Present
University of British Columbia

Bachelor of Commerce - Business and Computer Science Sept 2018 - Jun 2020
University of British Columbia

SKILLS

Computer	Python, C, C++, Matlab, Java, ROS, Machine Learning, Computer Vision, R
Electrical	Soldering, Prototyping, Circuit Analysis, Microcontrollers (STM32), Debugging
Mechanical	Mechanical Design, Waterjet Cutting, Laser Cutting, 3D Printing, SolidWorks, Onshape

TECHNICAL WORK EXPERIENCE

Open Science Specialist Jan - Apr 2022
Murphy Lab, Djavad Mowafaghian Centre for Brain Health *Vancouver, BC*

- Successfully implemented methods required in the analysis pipeline of large scale calcium imaging data under the supervision of Jeffrey LeDue, a research associate in the Department of Psychiatry, UBC
- Implemented methods on storing data in an Neurodata Without Borders file format (a standard neurophysiology data format)
- Conducted interviews with labs at the Centre to assess the extent to which labs are transparent and open with their research
- Designed and built a one-way door tunnel for a mouse home-cage experiment under the supervision of Dr. Tim Murphy

Undergraduate Academic Assistant May - Aug 2021
UBC Sauder School of Business *Vancouver, BC*

- Developed a machine learning algorithm using R to improve the prediction of the net income of firms based on accounting variables under the supervision of Dr. Rajesh Vijayaraghavan
- Tested various means of data partitioning to ensure that the time-series element of the large dataset would be maintained
- Determined the accounting variables significant in the prediction of the net income of the various firms
- Minimized root mean squared error of net income predictions

TECHNICAL PROJECTS

Autonomous Parking Agent (Engineering Physics Project Course, UBC) Nov - Dec 2022

- Developed an autonomous agent that drives through a ROS environment while obeying traffic laws
- Implemented a license plate detector and parking stall reader for the agent as it lane followed with PID
- Configured a navigation state machine to keep track of different sections of the course

Autonomous Robot (Engineering Physics Robot Course, UBC) May - Aug 2022

- Built an autonomous robot in a team of four to compete in a competition consisting of overcoming challenging obstacles with innovative design solutions
- Engaged in mechanical design and prototyping in addition to building parts of the electrical system
- Developed an efficient arm-claw system for the robot to pick up idols upon detection

Claw Retrieval System (UBC) Mar 2021

- Designed and constructed an autonomous claw retrieval system in a team of five
- Coded a program in C that was uploaded onto an Arduino microcontroller which interfaced with a sonar detection device and a servomotor
- Tested various iterations of the claw retrieval system using Onshape and rapid prototyping to determine that a hinge claw would be best for the effective grasping of items
- Built metal hooks for the claw component of the system to ensure a strong grip on the designated objects

Griphook Adaptive Device (UBC) Nov 2020

- Developed a simple and easy-to-use adaptive device for a quadriplegic client working with a computer mouse as part of a team of five
- Iterated through various designs using Onshape and tested potential features of the device to allow user to lift device to click mouse buttons and use the scroll wheel
- Designed device with four filleted legs and a center gripping pole to allow user to move mouse easily despite limited range of motion

PomoTodoApp (UBC) Apr 2019

- Coded a functioning calendar with the ability to add, remove, and edit tasks in Java
- Programmed a parser to iterate through JSONObjects in a JSONArray to parse each as a task with specific characteristics such as priorities and due dates
- Implemented a Jsonifier to convert model elements to JSONObjects

AWARDS

Dr. Peter and Eva Riley Bursary in Engineering Physics Nov 2022

- Awarded to support hard working and capable undergraduate students enrolled in the Engineering Physics program

Trek Excellence Scholarship for Continuing Students Sept 2022

- Awarded to the top 5% of undergraduate students

INTERESTS

- Poetry (published two poems through the Young Writers of Canada Association)
- Piano (Grade 8 RCM Certification)
- Tennis
- Yoga and Pilates