Nicholas Andrianos **Graduate Student**

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EDUCATION

University of British Columbia **Completed December, 2023**
BASc – Integrated Engineering (With Distinction)
GPA: 82%

University of British Columbia **Graduation April, 2026**
MASc – Mechanical Engineering
GPA: 88%

WORK EXPERIENCE

Sensing in Biomechanical Processes Lab (SimPL), Vancouver, BC **May, 2023 – Dec, 2023**
Concussion MRI Analysis Research Assistant
• Implemented a data pipeline to preprocess raw MRI images to be analyzed with various methods to identify biomarkers for concussions
• Assisted researchers in case and field studies related to concussion investigation in athletes
• Developed a Python and bash script to compute the average myelin water fraction in regions of interest of the brain from MRI images

IBM Canada, Toronto, ON **January, 2022 – September, 2022**
Software Developer Intern
- Implemented data filters in C++ to improve the performance of a query engine
- Tested C++ code with Google Benchmark, Catch2 framework, and Intel VTune profiler to minimize hotspots and enhance the performance
- Developed Python and bash scripts to automate processes in a Red Hat Linux environment

Ecoation Innovative Solutions, Vancouver, BC **May, 2021 – December, 2021**
Software Engineering Intern
- Developed and maintained UI on company product using PyQt framework based on customer feedback
- Implemented ROS nodes in Python for varying operations on a ROS based robot for greenhouses
- Modeled customer's IoT and greenhouse data using Python to identify losses in the system

Wireless Lab – INRS, Montreal, QC **May, 2020 – September, 2020**
Wireless Communication Engineering Research Intern
- Developed wireless sensor networks on IEEE 802.15.4 protocol with XBee and MICAz sensors
- Constructed RF communication schemes using Contiki OS, C/C++ code, and MICAz sensors
- Used TensorFlow, Scikit, & MatplotLib libraries along with Python to model the network data for insights

TEACHING EXPERIENCE

University of British Columbia, Vancouver, BC **January, 2025 – Current**
***Teaching Assistant, CPEN 333 Software Design for Engineer* ||**
• Assisted with marking duties and supervising lab sessions while helping students with lab assignments

University of British Columbia, Vancouver, BC **September, 2024 – Current**
Teaching Assistant, APSC 100/101 Introduction to Engineering
• Co-instructed studio lab sessions for first year engineering students, helping them practice and reinforce fundamental engineering skills

University of British Columbia, Vancouver, BC **September, 2024 – December, 2024**
Teaching Assistant, MECH 410Q/540G Numerical Optimization
• Assisted in creating assignment problems to provide students with additional learning opportunities

PROJECT EXPERIENCE

Financial Database Application **January, 2024 – March, 2024**
- Developed a Python GUI to interface with a query engine and SQLite database for non-technical users
- Worked as an independent contractor for small finance hedge fund to scale and store data efficiently

Foosbot – The Automated Foosball Opponent **September, 2022 – April, 2023**
- Designed and built a foosball table robot that operates as a single opponent for my capstone project
- Tracks the game ball in real-time using computer vision and control rods to strike an incoming ball

Predicting Language Fluency Using ML & EEG Signals **October, 2022 – December, 2022**
- Collected EEG data using a Muse2 device from users speaking in varying fluency and languages
- Generated scalograms using a wavelet transformation to train a CNN model to classify fluency levels

Hired Recruiting **January, 2021 – April, 2021**
- Developed a full-stack online website to streamline hiring, candidate tracking and interviewing
- Used NodeJS, MongoDB, Figma, and React to build the product

The Assistive Device for the Visually Impaired **January, 2020 – April 2020**
- Created an assistive device to aid visually impaired users in walking in a straight line
- Built a wearable device with computer vision and sensors to inform a user if deviating from a sidewalk while alerting them of obstacles

AWARDS

Faculty of Applied Science Graduate Award – $2,000	2024
A.H. Younger Memorial Scholarship in Engineering – $650	2024
NSERC USRA Award	2023
Best 4th year capstone project – 1st place, $600 prize	2023
Academic All-Canadian	2023
Thunderbird Rugby Award – $1,500	2022
UBC Applied Science Dean's List (2nd & 3rd year)	2021 & 2022
INRS's Research Excellence Scholarship	2020
Best 2nd year capstone project – 1st place, $500 prize	2020
Huntsman Leadership Summit Graduate	2019
Centennial Leaders Entrance Award – $80,000 full-ride UBC scholarship	2018
Horatio Alger Young Scholars Award – $5,000 Scholarship	2018

EXTRACURRICULARS

Varsity athlete for UBC Men's Rugby
Student Ambassador for UBC Development and Engagement
Lord Byng High School Volunteer Rugby Coach
Highschool Math Tutor – Grades 10/11/12
Athlete for Canada Rugby League