Trevor Daykin

604-655-1972 | trevorddaykin@gmail.com | linkedin.com/in/trevordaykin | tdaykin.github.io

PROFILE

My goal is to be a part of the innovative technology scene. Over the recent years I have realized how valuable it is to take initiative on tasks both personal and professional as I have lived the positive impacts it has on goals. I routinely put emphasis on being accountable and meaningful which has given me the ability to lead in competitive environments.

EDUCATION

3rd Year UBC Engineering Physics, BASc   Sept. 2021 – Present

University Of British Columbia   *Vancouver, B.C.*

- Engineering Physics is the bridge between Engineering and Science combining advanced concepts in math and physics while putting them to practical use in team-based projects
- Key Courses: software construction, signal processing, mechanics, experimental techniques and design

TECHNICAL EXPERIENCE

MEA Process Engineer Co-op, Advanced Manufacturing   Jan. 2023 – April. 2023

Ballard Power Systems   *Burnaby, B.C.*

- Applied a structured approach to qualify one of the most critical future Liquid Injection Molding processes; involving data collection, analysis, and ultimately, a presentation of results
- Hands-on experience in operating Liquid Injection Molding machines including: troubleshooting and control over molding parameters
- Developed and implemented automated data analysis, transforming raw data into actionable insights increasing overall efficiency by 98%
- Accelerated production times by 75% through rapid prototyping of 3D printed fixtures designed in CREO

TECHNICAL PROJECTS

Autonomous Robot Competition: 2nd Place | *CAD, Machine Shop, C++*

- Brainstormed, designed and manufactured an autonomous robot with a group of 4 to race on the same track as other robots all while passively picking up and avoiding certain objects
- Created the entire chassis ensuring all sensors, circuits, wiring and mechanical components function as intended, quickly prototyping drawings into reality by using 3D printers, laser/waterjet cutters, and lathes
- Implemented and tuned a PID algorithm in C++ so the robot can follow tape smoothly through custom made tape sensors controlled by an STM-32 Blue Pill

Nand2Tetris | *HDL, Gate logics, Git*

- Developed an understanding of computer architecture by building a modified computer system from the NAND gate up, learning knowledge of CPU architecture, ALU design, and memory systems
- Acquired hands-on experience in digital logic design using Hardware Description Language (HDL), synthesizing various logic gates and sequentially developing larger components of a modified computer system, such as ALUs and CPUs

Canadian Synthetic Biology Education Research Group, SYNB3 | *Python: scikit-learn, NumPy, pandas*

- Successfully found a rare cannabinoid that has a high affinity for the human CB1 receptor through simulation together with python and machine learning models
- Visualized protein similarities through hallucinations using python, PyMol and knowledge in organic chemistry
- Produced a technical outline with a multidisciplinary team across Canada that organized and summarized biological findings to satisfy real world demands for potential companies to explore

Multidisciplinary Undergraduate Research Competition | *R, Matlab, Latex, Word*
- Analyzed and statistically compared the market's data for air purifiers in order to lower costs, increase efficiency and safety for incoming products for COVID-19
- Interpreted how ultraviolet air purifying works, specifically with TiO_2 together with multi-walled carbon nanotubes, which reduce the harmful effects of UV radiation
- Transformed our findings into digestible content by using python and matplotlib

TECHNICAL SKILLS

Languages: Python, Java, C/C++, R, MATLAB, LaTeX

Developer Tools: Visual Studio, IntelliJ, Git

Libraries: pandas, NumPy, Matplotlib, scikit-learn

COMMUNITY ENGAGEMENT

Undergraduate Research   Sept. 2021 – Aug. 2022
Advisor: Arman Hejazi, UBC Department of Chemical and Biological Engineering   *Vancouver B.C.*
- Published an abstract with our findings which resulted in working towards a manuscript for an improved paper which is currently being organized

Undergraduate Research Opportunities Club   Sep. 2021 – Aug. 2022
University of British Columbia   *Vancouver, B.C.*
- Advanced my knowledge in research by understanding how to read/write technical documents and give presentations to a variety of audiences

PUBLICATIONS AND CONFERENCES

Multidisciplinary Undergraduate Research Competition (MURC)   March 2022
University of British Columbia   *Vancouver, B.C.*
- Lead a multidisciplinary team as we discovered innovations in air purification which evolved into authoring an abstract and representing our findings in a non-technical presentation

Daykin, T. D., Holzman, I. M., Chin, S. (2022). Development of a UV-LED based air purification system: A research study. Undergraduate Research in Natural and Clinical Science and Technology (URNCST) Journal, 6(4), A29–A29. https://doi.org/10.26685/urncst.375