Christian Turpin

cturpin2@gmail.com – (778) 677-4358 – LinkedIn

Summary of Qualifications

- Proficient in quantitative analysis, machine learning, and software design, derived from a strong background of coursework and internship experience.

- Expertise in various programming languages crucial to data-driven financial analysis such as Python, R, C, Java, and MATLAB.

- A proven track record in utilizing data analysis, machine learning, and optimization techniques to deliver impactful solutions.

- Demonstrated success in collaborating with multidisciplinary teams, leading complex projects from inception to completion.

- Outstanding communication and interpersonal skills; adept at managing high-priority tasks within tight deadlines.

Skills

Programming: C, C++, Java, MATLAB, HTML, CSS, R, Python, Machine Learning
Math: Probability, Calculus, Linear Algebra, Statistics, Graphing, Data Analysis
Electrical: Oscilloscope, Signal Generator, Multimeter, Circuit Design, Soldering
Mechanical: SolidWorks, Fusion 360, CATIA, Onshape, Engineering Drawings, 3D Printing, Machine Shop, Prototyping, Tolerance Stack-Up Analysis

Education

4th Year Engineering Physics
University of British Columbia, Vancouver   Expected Graduation: April 2025

- Engineering Physics is a fully accredited engineering program that combines the theoretical knowledge of an honors physics degree with the applied knowledge of mechanical, electrical, and software engineering.

- **Key Courses:** Probability and Physical Applications, Applied Linear Algebra, Software Construction, Machine Learning/Data Classification.

Technical Work Experience

Mechanical Systems Engineer   Kardium, Vancouver   May 2023 – Present

- Engineered a custom script in Python for processing atrial model CT scans, modifying and optimizing them for 3D printing in a flexible resin.

- Designed and 3D printed atrial models, used for training physicians on intricate medical procedures.

- Pioneered a novel training setup leveraging dual-camera tracking to determine catheter positioning inside 3D-printed atrial models.

- Collaborated with multidisciplinary teams to ensure the accuracy and reliability of the medical training models.

Hardware/Firmware Engineer   Brave Technology Coop, Vancouver   January 2022 – April 2022

- Directed the design, validation, and deployment of a durable, 3D printable, and cost-effective wireless button enclosure for use in overdose detection.

- Conceived an alternative enclosure design primed for large-scale injection molding production.

- Innovated a label applicator mechanism, bolstering product provisioning efficiency by 100% and enhancing aesthetic appeal.

- Devised a specialized jig for efficiently and accurately installing threaded heat inserts, boosting manufacturing output by over 300%.

- Engineered a diagnostic tool to assess PCB functionality, markedly improving product reliability.

Immunotherapy Research Intern   BC Cancer, Victoria   July 2019 – August 2019

- Cloned engineered B and T cell receptor genes for immunotherapy.

- Optimized a lab procedure for use in a future clinical trial.

- Performed data analysis using R and Excel.

- Presented progress at weekly lab meetings using PowerPoint.

Technical Project Experience

Machine Learning Autonomous Robot Competition   UBC, Vancouver   January 2023 – April 2023

- Engineered control software for an autonomous simulated robot in a student competition.

- Designed and implemented a driving algorithm leveraging OpenCV and imitation learning for efficient navigation.

- Applied OpenCV techniques for precise license plate isolation and trained a convolutional neural network (CNN) to recognize license plate characters.

- Secured 2nd place among 32 teams.

Autonomous Treasure Hunting Robot   UBC, Vancouver   July 2022 – August 2022

- Spearheaded a team to design and construct a prize-winning autonomous robot, clinching 1st place in the 2022 Engineering Physics Robot Competition.

- Engineered intricate components including a chassis, robotic arm, gripping system, and more using Fusion 360 and Onshape.

- Developed software in C++ for precise robot control using PID.

Analog to Digital Converter   UBC, Vancouver   September 2021 – December 2021

- Built and analyzed analog and digital circuits including RC, LCR, Op-Amp, Logic Gate, Flip-Flop, and counter circuits.

- Successfully constructed an analog to digital converter as a final project.

Technologies

Languages: C++, C, Java, MATLAB, Python, R
Technologies: SolidWorks, Fusion 360, CATIA, Signal Generators, Oscilloscopes