

JOSEPH MITCHELL

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SKILLS

LANGUAGES: C, C++, Python, JavaScript, TypeScript, React.js, HTML, CSS

DATA TOOLS: pandas, NumPy, Keras, TensorFlow

TECHNOLOGIES: Git, SolidWorks, Unity, Postman

WORK EXPERIENCE

FIRMWARE ENGINEERING INTERN

BreatheSuite

St. John's, NL

August 2022 – December 2022

- Applied knowledge in **digital signal processing** including Fourier transforms, filtering, and noise reduction to improve inhalation classification model by 6-12%.
- Ported functions from Python's Librosa library to the **C programming language** and implemented them in a real time operating system.

PROJECT PLANNER

PuraJuniper

Toronto, ON

April 2022 – September 2022

- Pitched business opportunity for deploying app suite throughout Newfoundland and Labrador health authorities.
- Facilitated meetings between PuraJuniper executives and local industry professionals leading to the development of a new major project.

JUNIOR SOFTWARE DEVELOPER

PuraJuniper

Toronto, ON

January 2022 – April 2022

- Developed **React-based applications** through agile methodology to create and display clinical practice guidelines complying to FHIR standards and guidelines.
- Conducted multiple meetings to pitch new **UI mock-ups** created in Figma.
- Represented JuniperCDS at the March 2022 Infoway Projectathon, **completing over 8 tests** related to **interoperability** and **exchange of health data** within Canada.

ONLINE LEARNING ASSISTANT

University of Waterloo Engineering Department

Waterloo, ON

May 2021 – August 2021

- Pioneered development of website for the Biomedical Engineering department utilizing **JavaScript libraries** to display curriculum information in a viewer friendly manner.
- Aided professors in increasing accessibility of teaching materials.

PROJECTS

BEAT SLASHER MOBILE GAME

Personal Project

Dec 2020 – January 2021

- Developed mobile rhythm game for **Android** and **IOS** utilizing **Unity 2D** and **C#**.

PARKINSON'S DISEASE DETECTOR

Personal Project

Jan 2021

- Implemented and displayed a Parkinson's Disease Detector using **Jupyter Notebook**,
- achieved classification accuracy of 93.8%.
- Utilized **pandas** to read, analyze, and process the UCI ML Parkinson's dataset.

EDUCATION

UNIVERSITY OF WATERLOO

BASc. Biomedical Engineering

Cumulative GPA: 90.24%

Waterloo, ON

Sept 2020 – Apr 2025

Relevant Coursework: **Data Structures and Algorithms | Computer-Aided Design | Linear Signals and Systems | Circuits, Instrumentation, and Measurements**