CATHY QIU

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EDUCATION

University of Waterloo, Waterloo, ON   June 2024 (Expected)
- **Major:** BASc in Mechatronics Engineering | **Minor:** Cognitive Science
- **Relevant Coursework:** Data Structures & Algorithms, Digital Computation, Microprocessors & Digital Logic, Circuits
- **Online Courses:** Machine Learning (Cousera), Deep Learning (Coursera), Introduction to Node.js (Udemy)

SKILLS SUMMARY

Languages: Python, C++, Java, C#, C, JavaScript, HTML/CSS, SQL
Technologies: Pandas, NumPy, SciPy, Keras, Matplotlib, .NET, Node.js, Git

EXPERIENCE

École Polytechnique Fédérale de Lausanne (EPFL)   *Lausanne, Switzerland*
MACHINE LEARNING ENGINEER   Jan 2021 – Present
- Developing deep learning models for electronic wearable devices using pruning and quantization techniques with **Keras**

Cognixion   *Toronto, Canada*
SOFTWARE ENGINEERING INTERN   Jan 2021 – Present
- Developing a brain-computer interface for a wearable AR headset to translate brain activity into digital commands
- Building ML pipelines to perform feature extraction and classification techniques to predict human thoughts in **Python**

Toyota   *Cambridge, Canada*
SOFTWARE ENGINEERING INTERN   June 2020 – Aug 2020
- Automated production control monitoring system by processing **XML** queries in **SQL Server** and converting queries to user-defined **HTML** files in **C#** and **.NET**, cutting **$400,000** in production costs
- Reduced sever response time by **36%** by optimizing data storage systems with **Azure Machine Learning** and **Power BI**

University of Waterloo   *Waterloo, Canada*
RESEARCH ASSISTANT   Sept 2018 – July 2019
- Developed a shoe insole with fall prediction using regression analysis with **Pandas**, achieving an accuracy of **94%**
- Researched muscle control by performing statistical tests to compare data distributions of muscle force and contraction

Maple Precision   *Waterloo, Canada*
UI/UX DESIGN LEAD   July 2018 – Mar 2019
- Led design of a 3D interactive mapping software interface for extracting geographic data using **Illustrator**
- Created website prototypes in **Photoshop** that led to an increase of **32%** in SEO traffic by improving user experience

PROJECTS

Cyborg Hand
- Built a robotic hand with PID control algorithm in **C** to perform grasp and pinch functions, producing a **93%** accuracy

Chatbot App, TO Hacks Finalist
- Android app that uses IBM Watson API to process text-based user inputs and return predefined responses in **Java**

YouTube to Spotify Music Converter
- Automated Spotify playlist from YouTube with POST requests in **Python** using Spotify Web API and YouTube Data API

ACTIVITIES

UWaterloo Airlock Team
ELECTRICAL & SOFTWARE TEAM MEMBER
- Developing a sensor data monitoring application for an airlock on Mars in **C**, **React**, and **Python** by centralizing data

Women in STEM
PRESIDENT & CO-FOUNDER
- Founded and led a local organization for **50+** female students to promote involvement in STEM careers
- Presented and organized events on academics, career options, and external guest speakers from STEM fields

AWARDS

- **2nd Place**, DECA International Career Development Conference Competition   2019
- Dr. P. S. Ahuja Academic Excellence Award for Women in STEM   2019
- First Class Honours in Level 10 Piano, Royal Conservatory of Music   2017