

Katherine Zhang

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EDUCATION

University of Toronto

Computer Engineering, Artificial Intelligence Minor

- Awards: Dean's Honour List, Dean's Merit Award

Toronto, ON

Sept 2020 - May 2025

SKILLS

Languages: Python, C/C++, JavaScript, System Verilog, MySQL, HTML/CSS, ARM Assembly

Technologies: Flask, Docker, Git, Jupyter Notebook

Other: CI/CD, UX/UI, Jira, Agile

WORK EXPERIENCE

Intel Corporation

Software Engineer Intern

Toronto, ON

May 2023 - Aug 2024

- Developed software tools to enable pre-silicon modeling of FPGA IP components using **C**, **Python**, Transaction Level Modeling, and Intel Simics Simulator.
- Built and **deployed an API library** supporting various communication interfaces, enhancing system compatibility and **improving scalability** to handle 25% more connection types.
- Implemented and **automated system-level Python tests**, increasing code robustness and reducing potential integration errors following **test-driven development** standards.

AutoMetrics Manufacturing Technologies Inc.

IoT Testing Intern

Toronto, ON

May 2022 - July 2022

- Developed **computer vision** and sensor features using **Python** and **OpenCV** to accurately measure and analyze the speed of automatic welding machines, improving measurement precision by 17%.
- Conducted **data analysis** with **Jupyter Notebooks** to determine root causes of detected anomalies. Presented detailed **data visualizations** and actionable insights, enhancing overall machine performance and reliability.
- Performed **interface and server testing**, identified critical issues, and collaborated with the development team to implement solutions.

PROJECTS

Personal Shopping Site

Team Leader, Front-End Developer

Toronto, ON

May 2024 - Present

- Developed a personalized e-commerce platform using **JavaScript**, **HTML**, and **CSS** to collect and process user data and generate tailored product recommendations via **API integration**.
- Integrated **Generative AI** to generate personalized blog content based on user attributes, leveraging **Natural Language Processing** models to enhance user engagement.
- Designed and built **persistent user data storage** using **MySQL** and **Node.js** for saving and retrieving user profiles across sessions, optimizing user experience with tailored recommendations.

Video Game Genre Detection Using Deep Learning Image Analysis

Developer, Project Manager

Toronto, ON

Jan 2023 - May 2023

- Developed a convolutional neural network (CNN) model to classify video game genres based on cover images, leveraging advanced machine learning techniques such as **transfer learning**.
- Utilized Python libraries such as **TensorFlow** and **PyTorch** for model development and training, ensuring efficient implementation of CNN architectures.

LEADERSHIP EXPERIENCE

Skule Badminton Club

President

Toronto, ON

May 2021 - Current

- **Increased club membership by over 200%** from 2020 to 2023 as President of the Skule Badminton Club, demonstrating strong leadership and community engagement skills.
- Managed club operations by proposing and approving new initiatives, and mobilizing the executive team to implement these initiatives.