

# Katherine Zhang

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## EDUCATION

### University of Toronto

Computer Engineering, Artificial Intelligence Minor

Toronto, ON

Sept 2020 - May 2025

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

## SKILLS

Python, C/C++, System Verilog, SQL, HTML, CSS, Git, Jupyter Notebook, ARM Assembly, CI/CD

## WORK EXPERIENCE

### Intel Corporation

Software Engineer Intern, Technical Product Management Intern

Toronto, ON

May 2023 - Aug 2024

- Developing software tools to enable pre-silicon modeling of FPGA IP components using **C**, **Python**, **Transaction Level Modeling**, and **Intel Simics Simulator**.
- Built an **API library** to support various communication interfaces to enhance system compatibility, increased system performance by enhancing scalability to handle 25% more connections types.
- Designed and prioritized product features, ensuring alignment with customer needs and business goals, using **agile methodologies** such as **feature-driven development**. Reduced delays in reaching key project milestones by 20%.

### 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.

### Nanalysis Inc.

Electronics Intern

Calgary, AB

May 2021 - August 2021

- Developed comprehensive **testing procedures for PCBs** used in spectrometer and magnetic resonance imaging products.
- Drafted detailed technical cable drawings for consoles and modules using **Altium Designer**, which improved documentation clarity and reduced errors in assembly by 30%.
- Assembled various PCBs, cables, and electronic consoles, ensuring adherence to quality standards and reducing assembly time.

## PROJECTS

### 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.
- Achieved 100% training accuracy and 50% validation accuracy, significantly outperforming the baseline ANN model which achieved 25.4% training accuracy.

## 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.