

# Erin Zhang

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## SKILLS

### Programming Languages

- Python
- JavaScript
- Java
- C/C++

### Web Technologies

- React
- Node.js
- HTML/CSS
- Next.js
- Tailwind CSS

### Tools Platforms

- Git
- Docker

### Languages

- English
- Mandarin

## EDUCATION

### Mathematics and Engineering

Queen's University  
2022-Current

## EXPERIENCES

### Online Silent Auction Website — QHacks 2025 Project

Jan 2025 - Jan 2025

Collaborated with a team to design and develop an innovative silent auction website, enabling users to bid on items anonymously without accessing bidding history.

Utilized React, Next.js, and Tailwind CSS for a responsive front-end, while implementing Firestore for real-time bidding functionalities and secure user authentication.

The project demonstrated strong skills in full-stack development, user experience design, and agile teamwork.

[GitHub](#) | [Website](#)

### Computer Vision Design Team Member — Queen's University QMIND

Oct 2023 - May 2024

Engaged in a collaborative project with Nikola Energy, a Kenyan startup, to create a yield estimator for maize using computer vision techniques.

Developed a Convolutional Neural Network (CNN) model achieving over 90% accuracy in distinguishing between healthy and diseased maize plants.

Implemented the YOLOv8 model to accurately count and compare corn yield, showcasing expertise in machine learning and agricultural technology.

### Hyperloop Computer Vision Project — APSC 103 Engineering Design Project

Jan 2023 - Apr 2023

Led the development of a computer vision system for a hyperloop pod, enabling obstacle detection and avoidance.

Utilized OpenCV, PyTorch, and TensorFlow for real-time processing and user interface design, demonstrating proficiency in software engineering and innovative problem-solving within a team-oriented environment.

### QEC Programming Developer — Queen's University Engineering Competition

Nov 2023 - Nov 2023

Designed a data processing pipeline to automate CO2 emission data extraction from NASA Earthdata in netCDF4 format.

Leveraged NumPy for data manipulation and developed a regression model to predict future CO2 emissions.

Experimented with a transformer-based model in PyTorch, showcasing analytical skills and knowledge in data science and environmental technology.

### Propulsion Team Member — Queen's University QRET

Oct 2023 - May 2024

Participated in the collection and analysis of data from rocket sensors to enhance rocket performance.

Employed embedded systems for data collection and utilized the Teensy 4.1 platform for analysis, demonstrating technical skills in embedded systems and data engineering within a high-stakes environment.