

# Mo (Catherine) Zhou

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## HIGHLIGHTS OF QUALIFICATIONS

- Programming Languages: JavaScript, TypeScript, SQL, .NET, Python, Java, C/C++, Git, HTML, CSS, Perl, Bash
- Software/IDE/etc.: React, Azure, REST API, NextJS, GraphQL, MySQL, Node, MongoDB, GitHub, Agile, Scrum, Google Analytics

## EDUCATION

**Bachelor of Applied Science, Electrical & Computer Engineering**

Sep 2017 – Jun 2023

Minor in **Engineering Business**, Certificate in **Artificial Intelligence**

University of Toronto, Toronto, ON

## WORK EXPERIENCE

**Full Stack Developer (Volunteer)** - LetsStopAIDS (Non-Profit Organization), Toronto, ON

Jan 2024 - Present

- Implementing feature developments in both frontend and backend of the organization's website utilizing Azure, TypeScript, NextJS, GraphQL, HTML and CSS, resulting in an improved user experience.
- Implemented Web Share API to organization website by TypeScript and Tailwind CSS to provide users with 50% wider range of share options resulting in a smooth user experience.
- Transformed the website into progressive web apps (PWA) using TypeScript and JSON to optimize SEO compatibility and provide more efficient access and maintenance.

**Software Developer (Paid Internship)** - IBM Canada Ltd. Markham, ON

May 2021 - Aug 2022

- Developed comprehensive functional verification testing in Perl, SQL, bash and C across multiple DB2 releases on multiple platforms. Maintained test cases' stability to ensure reliability and efficiency.
- Designed and delivered a scalable automation monitoring system for the domain test pipelines to enhance team productivity, contributing to a 6.25% increase in individual daily efficiency.
- Directed the modernization and migration of all domain-owned tests from IBM ClearCase to Git environments on the AIX platform, enhancing performance and workflow efficiency by 80%.
- Involved in the end-to-end SDLC of a new feature using SCRUM and Agile working methodologies and collaborated closely with the internal regression infrastructure team to enhance the domain's CI/CD jobs' reliability and environmental stability.

## PROJECT EXPERIENCE

**Human Value Detection** - *Team Leader*, Design Project, University of Toronto

May 2022 - Apr 2023

- Led a team of four to design and develop a machine learning model with GPT2 transformer and CNN classification head reaching an accuracy of 93% and an F1-score of 0.93.
- Applied NLP augmentation and back translation methods in Python to expand the dataset by 30%, reaching over 30,000 entries, identified project challenges, researched and integrated new technologies into model selection, and developed a web application in JavaScript and React with Gradio for interactive stakeholder engagement.
- Presented the project at the Design Fair, translating technical concepts into easily understandable language; providing leadership by overseeing progress, defining user needs and communicating effectively.

**Organization Website Upgrade** - *Supervisor*, VEEP, University of Toronto

Oct 2021 - Apr 2022

- Directed a team of eight to design and develop a website for the organization resulting in 83% increase of visits.
- Developed the web app framework using TypeScript, JavaScript, SQL, Node, React Bootstrap, React Router DOM, React Hooks and CSS to support future needs; designed the UI utilizing Figma; collaborated with the UI designers and conducted user research, incorporating the feedback to create more intuitive website structure.
- Defined project requirements and roadmap; delegated tasks to team members and maintained a healthy team environment using SCRUM and agile management, achieving a 30% improvement in progress tracking.

- Mobile Learning Platform** - *Project Manager*, Spelling Bee of Canada, University of Toronto Jan - May 2021
- Led a team of five to implement mobile support for the organization's online learning platform that aligns with the client's perspectives and provide detailed documentation for future maintenance.
  - Developed responsive design for the web application using .NET and CSS; conducted QA testing to ensure reliability; rapidly iterated and refined the web app based on client's feedback.
  - Increased communication among stakeholders, resulting in enhanced project efficiency by 50%; implemented Agile methodology to manage SDLC; maintained long-term relationships with the client.

- Cook Pad Website Development** - *Team member*, Programming on the Web, University of Toronto Sep - Dec 2020
- Designed and implemented a MongoDB database for text storage and utilized Cloudinary for image storage, supporting 100% data storage and efficient data retrieval.
  - Implemented 10 features on the website using JavaScript, React Bootstrap, material UI, RESTful API, React Router DOM and CSS; conducted detail-oriented functionality, usability, compatibility and responsive testing, identifying and reporting bugs and collaborated with two team members to address 100% of bugs.
  - Spearheaded the project development and managed multiple concurrent deadlines; communicated with team members in a timely manner, resulting in 30% increase of productivity.

## LEADERSHIP EXPERIENCE

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- Volunteer Engineering Experience Program**, University of Toronto
- President* Oct 2021 - Apr 2023
- Directed and managed the organization of 35 members by implementing a club development plan and strategic cost-cutting measures, resulting in an 83% increase in member engagement and an 80% reduction in annual expenditure.
  - Connected and nurtured relationships with 60% of past stakeholders by verbal communication, fostering continued collaboration and strong networks for future engagements; increased client retention rate by 66%.