# Hamzah Behery

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## **EDUCATION**

# University of Toronto

Toronto, ON

HBSc in Computer Science and Health Science

Completed Dec 2024

- Data Structures and Algorithms, Software Design, Databases and Systems Programming, Computing in Python
- Awarded: UofT President's Scholars of Excellence Award (Top 90 Applicants), 2020-24 Dean's List

# EXPERIENCE

#### TriSpects Inc.

Sep 2023 - Jan 2024

Fullstack Software Engineer

- Fully developed 10+ page company website using native JavaScript/HTML/CSS, Bootstrap, and CSS asset libraries to ensure a **100% responsive design** and seamless user experience across all devices.
- Engineered the website backend architecture and RESTful API using a Python Django framework (Wagtail), enabling seamless frontend to backend integration.
- Leveraged server-side rendering (SSR) on key assets to improve SEO and reduce TTFB/overall page load times.
- Implemented dynamic elements through advanced JavaScript DOM manipulation and facilitated form submissions while adhering to WCAG 2.1 standards, ensuring a seamless experience for **2.6**+ **million users**.
- Designed custom data structures/components to enhance website functionality and a MySQL database with a tailored schema to efficiently organize 100+ website assets.
- Deployed the website to production using Apache while managing version control via Git to separate production and development branches, ensuring stable releases to customers and **zero downtime** during deployment.

SIRTTS Inc. May 2023 - Sep 2023

Fullstack Software Engineer

- Built an application (Flutter/Python) optimizing appointment setting process used by 1.7+ million Reliance Home Comfort customers in Canada. Used Python Flask to engineer a RESTful API to communicate suitable appointment dates between the frontend and backend based on customer needs and stakeholder requirements.
- Implemented two pre-trained AI models to create a tool (Flutter/Python) which summarizes corporate group chat messages into action items, for use by a K-12 school staff team housing **2000**+ **students**.
- Worked with a team to test a school board web-app under an AGILE development workflow, involving creating tickets and managing bug reports on the JIRA platform, and integrating customer feedback to improve design.
- Developed a strategic plan to leverage AI NLP solutions, including PyTorch, for future integration into the company's existing technologies to enhance data processing and automation capabilities.

# **PROJECTS**

# MAC Reality Quest Online Game - TypeScript, Next.JS, TailwindCSS, SQL

GitHub Repo

- Fully developed an online puzzle game with **150+ concurrent** users at peak operation times, including a user system utilizing the JWT authentication protocol and a RESTful API managing up to **200,000+** requests/day for facilitating user sign-in and in-game tasks.
- Separated server/client React components resulting in significantly faster load times/performance, and used TailwindCSS along with component library DaisyUI to develop user-friendly, responsive design.

### AI-Powered All-in-One Password Manager - Python

GitHub Repo

- Stores user account information and uses a fine-tuned version of Microsoft's CodeBERT-base AI model to recommend ideal passwords to users, trained on 650,000+ data entries.
- Uses Python tkinter to provide a seamless, interactive user experience across multiple platforms.

### Climate Change Data Visualizer - TypeScript, Next.JS, TailwindCSS, Python

- Parsed and analyzed large datasets dating 250+ years of carbon dioxide emissions across 150+ countries.
- Cross-referenced data with 500,000+ entries of environmental factors such as average temperature, and visualized the resulting information using a React library and RESTful API built with the Python Flask framework.

# TECHNICAL SKILLS

Languages: Javascript, CSS, Python, SQL, HTML5, C, C++

Fullstack Development: TypeScript, React, Next.JS, TailwindCSS, Node.JS, Flask, Apache, ML

Other Tools: Git, Docker, Vercel, Postman, PyTorch, TensorFlow, Jira