# Benjamin Tsang

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## EDUCATION

**University of Toronto** — Mississauga, ON
*Bachelor of Science in Computer Science, CGPA 3.9* — *Sep. 2023 – May 2027*

**ESF Sha Tin College** — Hong Kong
*International Baccalaureate Diploma, 44/45 points* — *Aug. 2016 – May 2023*

## PROFESSIONAL EXPERIENCE

**Quantitative Research Intern** — June 2024 – August 2024
*Kantar Group* — *Hong Kong*
- Performed data analysis and visualization on large amounts of survey data for client companies, forming reports that inform their marketing decisions.
- Built Excel macros and **VBA** scripts to streamline and automate data processing. Macros were used over **150 times**, delivering **14+ hours** of time savings.
- Engineered an intranet web application using **React** and **Flask**, implementing a **REST API** with **HTTP requests** to securely trigger Excel automation via VBA on a remote machine, with **MySQL** for managing data storage.

**AI Researcher Intern** — June 2021 – July 2021
*Raspect Intelligence Inspection* — *Hong Kong*
- Assisted in fine tuning the AI building facade defect detection model by engaging in data collection, cleansing and labelling.

## EXTRACURRICULARS

**Director of Information Technology** — August 2024 – Present
*University of Toronto Student Research Initiative* — *Toronto, ON*
- Leading the development of UTSRI's official website including registration, payment and newsletter sign-up.
- Developing and implementing a comprehensive filtering system for STEM research proposals to streamline the review process and improve project selection efficiency.

**Web Developer** — July 2024 – Present
*SustainaPod* — *Remote*
- Developing an educational platform to teach students about career paths in sustainability.
- Building with Next.js, utilizing TypeScript and React for the frontend, and styling using Tailwind CSS.

## PROJECTS

**MailSpot** | *React, Flask, SQL, JWT Authentication, vaderSentiment*
- Web application which fetches user emails from Microsoft Outlook using **IMAP** and sorts them with sentiment analysis, helping customer service representatives address the most urgent customer concerns first.
- Integrated **JWT authentication** tokens into the website to ensure secure user sessions, enabling stateless authentication and improved scalability.

**Flashloom** | *React, Next.js, Firebase, Gemini API, Stripe API, Clerk, Vercel*
- An AI web application that generates flashcard sets based on user prompts
- Designed and integrated a subscription-based payment system using **Stripe API**
- Implemented a secure **Clerk authentication** system, ensuring user identity verification and safeguarding access to sensitive data.

## TECHNICAL SKILLS

**Languages**: Python, Java, Javascript, SQL, HTML/CSS, C/C++
**Frameworks**: React, Node.js, Next.js, Flask, Django, Material-UI, Bootstrap, Wordpress
**Developer Tools**: Linux, Git, Google Cloud Platform, Firebase, Pinecone, VS Code, PyCharm, IntelliJ, Android Studio
**Libraries**: pandas, NumPy, Matplotlib, vaderSentiment, opencv, nltk