

Johnnie Tse

B. A. Sc (Computer Engineering) Candidate
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EDUCATION

• Queen's University, Kingston, Ontario

2022 - 2026

Bachelor of Applied Science (BASC) in Computer Engineering

PROFESSIONAL EMPLOYMENT EXPERIENCE

• Freelancer.com

May 2024 - August 2024

Android App Development Freelancer

Remote

- Built a feature-rich **e-commerce android application** for my client's brand, **ChillnCharm**, using **MVVM architecture**, **Repository pattern**, and **Clean Architecture** to reduce **20% of future development time**.
- Integrated **Retrofit** for accessing the **FAKE STORE API** and **ROOM Database** for local storage, achieving an **85% faster load time** for cached content compared to API calls.
- Developed an engaging UI that enhanced users' shopping experience by **30%**, with features for browsing **15+ product categories** & a **98% successful checkout rate**.

• Foresoon Computer Engineering Company Limited

August 2023 - August 2023

Electrical Engineer Assistant

Hong Kong SAR

- Engineered an **assistive robotic system** that transfers spoon-held food to a disabled user's mouth, using **Python OpenCV**, achieving a **95% accuracy rate** in food detection & a **10% improvement** in feeding speed compared to manual assistance.
- Employed **FDM 3D printing** and **laser cutting** to fabricate precise **SolidWorks components**, reducing **material waste by 20%**.
- Optimized **motor control algorithms** using **Python's NumPy** to analyze performance metrics across **50+ test iterations**.

• Ciena

May 2023 - August 2023

Project Financial Management Intern

Hong Kong SAR

- Conducted financial viability analysis using **XIRR**, **NPV**, and **GOAL SEEK** functions in **Excel** to support strategic decision-making for **\$2 million worth of projects**.
- Monitored and reconciled budget data for **12 ongoing projects** in **SAP S/4HANA**, identifying potential cost-saving opportunities that helped prevent budget overruns of up to **\$150,000**.
- Created interactive **dashboards** in **Microsoft Power BI** for **real-time data visualization** and **expense tracking**, helping to identify **\$75,000** in cost variances and optimize resource allocation by **25%**.

EXTRACURRICULAR ACTIVITIES

• Queen's Student Cluster Competition Team

September 2024 - Current

Operations & Logistics Lead

Kingston, ON

- Coordinated outreach efforts to secure **speakers** for bi-weekly workshops & tutorials and oversaw a team of **3+ operations & logistics coordinators** responsible for managing the setup & breakdown of workshops & tutorials, ensuring that the audiovisual setup, venue, and logistics preparation met both the needs of speakers & participants.

December 2023 - Current

Financial and Sponsorship Lead

Kingston, ON

- Managed a **\$10,000 budget** for a high-performance computing team of approximately **150 members** preparing to compete at the international **Student Cluster Competitions**, including the **SC24** (sc24.supercomputing.org) & **SC25**.
- Designed an **Android expense tracking app** called "**travelExpenseTacker**" for the competition team members to efficiently track their travel expenses and export those records into **Excel spreadsheets** as financial statements.
- Secured **around \$10,000 in sponsorships** from **5 local businesses & tech companies** through tailored outreach emails & proposals.
- Achieved a **15% reduction** in team expenses by negotiating sponsorship contracts with the team's sponsors.

• QWeb

September 2024 - Current

Full-Stack Developer

Kingston, ON

- **Developed and deployed responsive full-stack web applications** during QWeb's Winter Development Sprint, collaborating with cross-functional teams to deliver feature-rich web applications for real-world clients, including Queen's clubs and local businesses.
- **Optimized front-end performance by 20%** through React.js optimizations, reducing render times by 15% with techniques such as lazy loading, memoization, and code splitting. Implemented scalable back-end solutions with **RESTful APIs** using **Node.js** and **MongoDB**, improving database query performance by 20% through efficient indexing and aggregation pipelines.
- **Collaborated with project designers and developers in Agile teams**, streamlining development workflows with **Git**, reducing bug resolution time by 30%, and resolving 95% of identified issues pre-deployment through leading **debugging and testing efforts** with **Jest**, **Postman**, and **Chrome Developer Tools**.
- **Converted Figma designs into responsive and accessible front-end components**, improving user interface consistency by 30% and enhancing website usability for diverse audiences.

TECHNICAL SKILLS & INTERESTS

Languages: Java, C, C++, Python, VHDL, HTML, CSS, SQL, R, Bash, Assembly language, JavaScript, LaTeX

Libraries & Modules: Standard Java, Python, and C Libraries, Python Open CV, NumPy, and C POSIX Libraries, Linux Kernel Modules

Frameworks: React.js, Node.js, Arduino, Flutter

Modelling & Simulation Tools: AutoCAD, SolidWorks, Fritzing, KiCAD, LTSpice, CPULATOR, Intel Quartus Prime, Intel ModelSim

Productivity Software: Microsoft Office (Excel, Word, PowerPoint, Project, Teams, SharePoint), Microsoft Power BI

Development & Database Management Tools: Android Studio, VSCode, Git, MySQL Workbench, Oracle SQL Developer

Databases/Cloud: Relational Database (MySQL, Oracle), SAP S/4HANA Cloud

Relevant Coursework: Computer Architecture, Electronics I, Digital Systems, Data Structures and Algorithms, Object-Oriented Programming, Data Science, Microprocessors & Embedded Systems, Engineering Client-based Design Project, Operating Systems, Economic and Business Practice

Languages spoken: Native in English, Mandarin, and Cantonese and Limited working proficiency in French