Shane Chen

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EDUCATION

University of Waterloo   September 2024 - May 2029
Bachelor of Computer Science   *Waterloo, Ontario*

- Excellent Standing - **3.96/4.0 GPA**
- One of 10 recipients of the Math National Scholarship awarded for exceptional academic and contest performance

SKILLS

Languages: JavaScript, HTML, CSS, TypeScript, Python, Java, SQL, C, C++
Frameworks/Libraries: React, Angular, Express, Node.js, Django, FastAPI, WebSocket, GraphQL, PostgreSQL
Tools/Technologies: Git, Docker, Bash, Linux, GitHub Actions, AWS, Firebase, Hugging Face, NumPy, Scikit-learn

EXPERIENCE

Software Developer Intern   May 2025 - August 2025
Poket Data Collection   *Toronto, Ontario*

Lead Mobile Developer   December 2021 - July 2024
William Lyon Mackenzie C.I.   *Toronto, Ontario*

- Led team of five to engineer and ship a React Native app for school events reaching **600** downloads per semester
- Managed a collaborative and cohesive workflow using **Git** version control and **Agile** practices
- Integrated dynamic event data from a **Django REST API** with push notifications and real-time updates, increasing user engagement by **30%** through timely alerts and calendar sync

President and System Administrator   September 2023 - June 2024
Mackenzie Computer Programming Team   *Toronto, Ontario*

- Supported over **1,400** users by administering mcpt.ca, an online judge for programming problems
- Resolved infrastructure and content issues through QA testing and a proprietary ticketing system
- Strengthened national-level contest preparation by authoring **30+** structured problems, hosting 6 competitions with **100+** participants, and collaborating with curriculum leaders

PROJECTS

Convergence | *Typescript, React, FastAPI, SQLite*

- Architected and deployed an interactive multiplayer Alternate Reality Game supporting **100+ concurrent WebSocket** connections using **FastAPI** and **SQLite**
- Organized a 3 hour game in Toronto with **50+** participants, managing real-time gameplay tracking with **PostHog**

Re-Prompt That | *Next.js, Express, WebSocket, AWS, Docker*

- Engineered a multiplayer LLM prompt reverse-engineering game leveraging a **JavaScript stack** and **Hugging Face vector embeddings** for high-accuracy semantic matching
- Enabled scalable, containerized hosting on **AWS EC2**, cutting cloud deployment time to seconds by building a **CI/CD pipeline** with **Docker** and **GitHub Actions**

MatchMadeIn.Tech | *React, Flask, GitHub, GraphQL, Scikit-learn*

- Developed a **GitHub user-matching app** to connect users with similar commit frequencies and language profiles
- Optimized GitHub API data queries using **GraphQL**, allowing querying up to **100,000** users per hour
- Contributed to a robust matching API leveraging **K-Means clustering** with **Scikit-learn**, **Flask**, and **Postman**

Faceoff Fantasy | *React, Redux, PostgreSQL*

- Developed an NHL fantasy app delivering dynamic updates using **React** and **Redux** state management
- Enabled customizable leagues stored in **PostgreSQL** using UUIDs to enforce controlled invitations