Tianze Yin

548-883-1207 | yintz1207@gmail.com | linkedin.com/in/tianze-yin | https://github.com/tianzeyin

SKILLS

- **Languages:** TypeScript, Javascript, Python, C++, HTML, CSS
- **Frameworks:** React, Playwright, FastAPI, NextJS, OpenCV, Arduino

EXPERIENCE

End-to-End Tester/Frontend Developer [Kortex]   Sept 2024 – Jun 2025
React, NextJS, Playwright, TypeScript, Python   *Toronto, Ontario*
- Developed and maintained Kortex, a note taking application designed to help users efficiently organize and manage notes.
- Performed end-to-end (E2E) testing with Playwright of the Kortex program to improve software reliability.
- Automated end-to-end testing of complex frontend interactions, identifying, documenting, and reporting defects to ensure consistent behavior across application features.
- Refined frontend file structures, improved code readability, and removed duplicated/unused code to streamline the codebase and facilitate future development.
- Worked extensively with GitHub in a large team, following branching strategies and pull request workflows.

UW Orbital Design Team [University of Waterloo]   Dec 2025 – Present
FastAPI, NextJS, Python   *Waterloo, Ontario*
- Worked as part of the Ground Station team, developing backend features for managing spacecraft commands.
- Added data validation to ensure command parameters and formats were correct before being stored.
- Built backend API routes using FastAPI to create, view, and delete commands.
- Connected the system to a database using SQLModel to store and manage command data.
- Implemented command status tracking, timestamps, and request logging for better monitoring and debugging.

Student Council Web Manager [St. Paul's High School]   Sept 2023 – June 2025
React, HTML, CSS   *Winnipeg, Manitoba*
- Designed, developed, and maintained a static website to provide timely updates on school events and announcements.
- Implemented structured layouts (React) and responsive styling (CSS) to improve usability across different devices.
- Improved accessibility and navigation, making information easier to find for the school community.
- Collaborated with council members to publish content, manage schedules, and ensure consistent messaging.

PROJECTS

True Light | *React, FastAPI, NextJS, OpenCV, TypeScript, Python*   Jan 2026
- Built a real time mobile accessibility app at Delta Hackathon.
- Developed a mobile app to provid visual and audio alerts to assist colorblind and low vision users across different transportation modes.
- Developed React (Expo) frontend with live camera input and animated overlays for multiple color vision types.
- Implemented OpenCV color detection and contour analysis to classify 30+ color regions.
- Built a Python FastAPI service and integrated it with a Next.js backend to process images and return live detection results.
- Integrated text to speech voice alerts using ElevenLabs to deliver accessible, real time feedback.

Chess AI | *NextJS, Machine Learning, Algorithm, Python*   Nov 2025
- Built a starter Chess AI bot for the ChessHacks Hackathon.
- Developed a machine learning training environment for the bot by using Lichess game simulations to improve bot capability.
- Evaluated and refined the AI's performance by analyzing outcomes from simulated matches, iteratively improving its decision making over time.
- Integrated the bot with a NextJS devtools interface to enable real time testing, move analysis and hot reloading during development.

EDUCATION

University of Waterloo, BASc in Computer Engineering   Sept 2025 – May 2030