

GARRICK TSE

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TECHNICAL SKILLS

Languages: Python, C, Java, JavaScript, SQL, HTML + CSS, PHP

Databases: Microsoft SQL Server, SQL Server Management Studio, MongoDB, Firebase Firestore

Web Technologies: React, Node.js, Express, REST APIs

Frameworks & Libraries: Pandas, NumPy, Matplotlib, BeautifulSoup, Tkinter, Android Studio

Tools & Platforms: Git (GitHub), AWS, Windows, Linux, Jupyter Notebook

Core Skills: Requirements Gathering, Problem-Solving, Teamwork, Time Management, Leadership

EDUCATION

Bachelor of Science, Computing Science — Specialization

Sep. 2023 – Present

University of Alberta

Edmonton, AB

Relevant Coursework: Data Structures and Algorithms, Object-Oriented Programming, AI Search and Planning

PROJECTS

Prominent Person Stock Tracker | Python, Pandas, BeautifulSoup, Tkinter

- Built a desktop stock tracking application visualizing disclosed trades from executives and politicians across multiple public data sources.
- Scraped and aggregated data from multiple public sources using BeautifulSoup, processing millions of data points into a structured Pandas pipeline.
- Developed interactive filtering by individual person and stock ticker, enabling targeted analysis of trading activity.
- Generated downloadable charts and CSV exports, allowing users to save and share custom views of trading data.

Android Social Media Mood App | Java, Firebase, Android Studio

- Developed scalable Android app in Agile team using GitHub workflows.
- Optimized database queries and async handling, improving efficiency by 74%.
- Designed distributed Firebase backend with client-side caching.

Distributed Social Networking Platform | Python (Django), PostgreSQL, REST APIs, Heroku, Javascript

- Collaborated in 5-person team to design and test a federated social networking platform, executing structured and exploratory test scenarios to validate cross-node interactions and user workflows.
- Developed and documented comprehensive API test cases for authors, posts, comments, likes, and follow requests, ensuring full coverage of edge cases, authentication rules, and pagination requirements.
- Investigated defects by reproducing bugs, analyzing root causes, and working closely with teammates to implement and verify fixes before deployment.

Ray Tracing Engine | C

- Optimized 3D rendering algorithms, improving render time by 100%.
- Implemented advanced lighting and shading models.

NeuroCalm | Python, React, SQLite, BrainFlow, WebSockets, PHP

- Built an EEG-based relaxation recommendation system using OpenBCI hardware to analyze real-time brain activity.
- Designed a React web dashboard with real-time visualization of EEG metrics and adaptive relaxation feedback.
- Implemented reinforcement learning logic to personalize relaxation recommendations based on historical EEG patterns.
- Created end-to-end pipeline integrating hardware input, signal processing, web frontend, and persistent SQLite storage.

Gateway Training Tool | Typescript, Tailwind CSS, React JS, PostgreSQL - In Progress (GatewayTraining.org)

- Architecting and developing a full-stack web application serving Gateway training department across Canada.
- Built a React + TypeScript frontend with Tailwind CSS enabling Coordinators to manage class creation and trainer assignments, Trainers to build drills and grade students, and Students to log performance metrics and drill times
- Designed a PostgreSQL relational schema modeling the Coordinator → Trainer → Student hierarchy with row-level security via Supabase, including built-in auth and file storage for reports and PDFs
- Deployed on frontend using Vercel and using database using Supabase.

EXPERIENCE

Dealer + Dealer Trainer

Sep. 2024 – Present

Gateway Casinos and Entertainment

Edmonton, AB

- Calculated and distributed winnings with 100% accuracy in fast-paced environment.
- Managed hiring process for 40+ candidates and trained new dealers.
- Supervised trainees ensuring operational compliance and service quality.