

# SHUAI (VINCENT) ZHU

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## EDUCATION

University of Toronto — BS in Computer Science

Sep 2019 - Jun 2024

- **Achievements:** \$4000 John W. Browne Award 2023, \$500 Department of Computer Science Engagement Award, Top 3 Actuarial National Association Case Competition 2022
- **Hackathons:** Google Developers Solution Challenge, Hack the Globe, UofTHacks IX, X, XI, GenAI Genesis

## SKILLS

**Programming Languages:** Python, Java, Javascript, Typescript, SQL, HTML, CSS

**Frameworks:** React, React Native, Node, Flask, Django, PostgreSQL, Tailwind, Bootstrap, Cucumber

**Tools:** Firebase, Google Cloud, Docker, Postman, Figma, Expo, Vercel, Netlify, Heroku, Vertex AI, Azure ML, Git, Github

## EXPERIENCE

N42 Finance | Software Engineer

May 2024 – Present

- Developed a Trading Risk Management Tool with **11** commands on Telegram enabling realtime trading status checks using **Python, Telegram, Ngrok, AsyncIO, AsyncPG, SSHTunnel, Paramiko**.
- Engineered data collection, analysis, and storage systems by integrating wallets/addresses from **4 Crypto Exchanges** and **2 Blockchains** using the exchange and web3 APIs, asynchronous connection pooling, and designing **5 PostgreSQL** database schemas.
- Built an efficient and secure Telegram bot with whitelist capabilities and queue cleaning features, reducing clog time from **4 hours** to **10 mins (95.8% Reduction)** using user authentication, rate limits, and efficient error handling.
- Enhanced data visibility by **4.5 times** with web UI using **Vercel, React, DaisyUI, and Tailwind**.

UofT Lee Lab: ATAIGI | Software Engineer Lead (Supervision: Prof. Annie En-Shiun Lee)

Dec 2023 – Present

- Received a offer of **fully funded (\$15,000+)** thesis based **Master of Computer Science** at Ontario Tech University (respectfully declined) by leading a **team of 9** in the research and development of Educational App **ATAIGI** using **React Native, Node, Native Base, & Firebase**.
- Enhanced user experience by conducting research on **35 volunteer participants** with the Research Ethics Board standards.
- Optimized data operations and image storage costs to support **5 ML Models** by designing **8 database schema**.
- **Co-first authored 1** Research Paper submitted to **Rank A Conference NAACL 2024 19th Workshop**.

You're Next Career Network | Software Engineer

Apr 2023 – Apr 2024

- Developed a Google Maps inspired **career fair venue map** utilized by **4,500+ students/11,000+ visits** and **109+ companies (\$155,000+ Sponsorship)** during 2023 and 2024 Career Fair Week with **React, React-Spring, Bootstrap, & Docker**.
- Integrated **user authentication** for **37000+ visitors** with **email/password, Google auth, LinkedIn OAuth2** using **Firebase** and **React**.
- Implemented email/password sign-ups with an **email verification link** and personalized user experience with **onboarding information**.

GR4LLM | Research Assistant (Supervision: Prof. Eric Yu & Vik Pant - Chief Data Scientist @ PWC) Sep 2023 – Dec 2023

- Conducted goal-oriented requirements engineering for LLMs and provided a structured approach to assess LLM suitability in various domain specific contexts with **3 modelling views:** Business, Analytics Design, and Data Preparation using **GR4ML** methods.
- Evaluated and visualized the positive and negative contribution of **10+ LLM metrics** (e.g. perplexity) from reviewing **39 academic papers**.

Veeva Systems | Software Engineer

May 2022 – Apr 2023

- Led the development of a data validation automation tool using **Java**, saving **3,600 workdays/yr** in data creation and productivity.
- Developed **145** automation tests using **Java & Cucumber**, resulting in improved software quality and reduction in testing time by **80%**.
- Explored AI chatbot solutions with **Dialogflow, React** and **Node**, targeted to reduce onboarding time for new hires.

Korotu Technology | Software Engineer Lead

Jan 2023 – Apr 2023

- Directed a team of **six** developers in engineering a **tree species classification mobile app** using **Expo, React Native, Node, Express, Parse, Tensorflow, & Jest**, deployed backend to **Heroku**, and ML model to **Azure ML**.
- Contributed as **Scrum master, frontend, and ML engineer**. Built front-end compo camera, image library, and deployed **TensorFlow** model.
- Deployed **2 ML classifications:** PlantID API and custom ML using Google's Mobile Plants classification model and iNaturalist plant dataset.

## PROJECTS

Movie Recommendation System | MovieLens, Python, PyTorch, NumPy, Pandas, Matplotlib

Jan 2024 – Apr 2024

- Produced a user based neural network model with reinforcement learning from human feedback to predict user's preferences.

OASIS Web Agent: GenAI Genesis | Python, Selenium, Gemini, Google Cloud, Vertex AI

Mar 2024 – Mar 2024

- Developed an AI Web Agent to automate online shopping on **Amazon** for individuals with mobility issues using Speech ↔ Text.