

# SHUAI (VINCENT) ZHU

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## EDUCATION

University of Toronto St.George — BS in Computer Science

Toronto, Canada

- **Achievements:** \$4000 John W. Browne Award 2023, **Top 3** Actuarial National Association Case Competition 2022
- **Hackathons:** Google Developers Solution Challenge, Hack the Globe, UofTHacks IX, X, XI, GenAI Genesis
- **Clubs:** You're Next Career Network, UofT Machine Intelligence Student Team, UofT Artificial Intelligence, UofT Google Developer Student Club, UofT Hacks, UofT Kendo Club

## SKILLS

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

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

**Machine Learning Libraries:** PyTorch, Tensorflow, NumPy, Pandas, Scikit-learn, Matplotlib

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

## EXPERIENCE

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

Dec 2023 – Present

- Lead **three** engineers in the development of a Hokkien Translation App ATAIGI using **Expo, React Native, Node, Native Base, & Firebase**.
- Designed an optimal **database schema**, minimized redundant data operations and image storage costs to support **5 Models** to enhance users learning experience: Text Translation, Sentence Generation, Hokkien Romanizer, Text to Image, & Text to Speech.
- Received **fully funded \$15,000+ thesis based Master** of Computer Science at Vector Institute Recognized Ontario Tech Univeristy.
- **Co-first authored** a 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 with **React, React-Spring, Bootstrap, & Docker**, featuring a location info panel. Utilized by **4,500+ students/11,000+ visits** and **109+ companies** (\$155,000+ Sponsorship) during 2023 and 2024 Career Fair Week.
- Integrated user authentication with **email/password, Google auth, LinkedIn OAuth2** for **37000+ visitors** using **Firebase** and **React**.
- Implemented email/password sign-ups with an **email verification link** and personalized user experience with **onboarding information**.

UofT Machine Intelligence Student Team | Cloud Developer

Sep 2023 – Apr 2024

- Contributed **open-source** cloud infrastructure github repository Kubernetes for the first time by resolving posted issues.

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

- Conducted goal-oriented requirements engineering for large language models (LLMs) and provided a structured approach to assess LLM suitability in various contexts. Inspired by GR4ML with three modelling views: Business, Analytics Design, and Data Preparation.
- 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 **2,800 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%**.
- Utilized Agile methodology and boosted personal productivity by **24 days/yr**.
- 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.
- Offered **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.

Pigeon: UofT Hacks XI | React, Preline, Tailwind, Python, Flask, Selenium, Dalle, Coral

Jan 2024 – Jan 2024

- Built a nostalgic social media web app, with the user's handwritten font displayed with 8 styles of English (**Coral**) and postcards (**Dalle**).