Yonge Bai

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Experience

AI/ML Software Engineering Intern @Ericsson **May 2024 - Current**

- Built an anomaly detection web app with a **React** and **TypeScript** frontend, and a **Nodejs** and **Python** backend, integrating both custom and **HuggingFace** machine learning models to reduce troubleshooting time and minimize downtime.
- Spearheaded user demos, translating **user feedback** into **development priorities** to align our product with user needs
- Refactored legacy code to follow better software engineering practices, leading to a **reduction** of over **3000 lines of code**

Machine Learning Intern @Fellowship.AI **Jan 2023 - Mar 2023**

- Led 8 other interns to reproduce ChatGPT fine-tuned to be a wealth adviser in 12 weeks. Led SCRUM and weekly presentations.
- Generated 1.4k rows of Q&A pairs using **BeautifulSoup** to scrape financial websites, and **OpenAI's API** to generate training data, then fine-tuned a **LLaMa** 13B Model, resulting in a **26% improvement** over ChatGPT.
- In this pursuit, we created the most popular finance dataset on **HuggingFace**, amassing over **4K downloads**.

Software QA Automation Intern @Legrand **May 2023 - Aug 2023**

- Collaborated with a team of 3 developers and 3 QA and served as the primary QA resource in a separate project
- Developed and executed comprehensive test plans and implemented automated test cases, resulting in the detection and resolution of critical bugs, preventing costly post-release fixes, and ensuring product quality
- Quickly learned **C#**, **.NET**, **MSTest**, **Appium**, and **Docker** and utilized **Python** and **PyTest** for automation to detect and fix bugs. For one project I assisted in **increasing automated testing by 38.9%**, and for the other I implemented automated end-to-end testing, **increasing code coverage to 93%**.

Education

McMaster University | *Bachelor of Engineering, Software Engineering* | **GPA** of **3.9**/4.0 *(11.3/12)* **Graduation: Spring 2026**

arXiv Preprints

Survey on Fundamental Deep learning 3D Reconstruction Techniques - Comprehensive survey paper on fundamental and SOTA deep learning techniques for 3D reconstruction, including NeRFs, Latent Diffusion Models, and 3D Gaussian Splatting. Analyzed algorithms, strengths, limitations, and future trends in 3D model and scene reconstruction

Projects

Acro-Ally |Go, OpenAI API, Stripe, SupaBase

- Developed a personal acronym dictionary application **SaaS** that leverages **OpenAI** to automatically extract acronyms from uploaded documents, featuring a global hotkey for instant acronym lookup from any application.
- Implemented a cross-platform solution in pure **Go,** used **SupaBase** to manage user licenses, and **Stripe** for payments.

Tattoo Eraser | Python, Gradio, ComfyUI, Google Cloud Platform

- Launched a **Generative AI** image processing **Gradio** application using **ComfyUI** and **Stable Diffusion**, enabling users to remove tattoos from photographs and videos through an intuitive web interface, hosted on **GCP.**
- Engineered a robust backend system integrating multiple API endpoints for a custom ComfyUI workflow.

StoryTime: Ebooks to Audiobook | Python

- Developed an app that generates audiobooks in the voice of Lex Fridman. Users can seamlessly input an E-Book and get an audiobook with chapters, similar to Audible Audiobooks but for free. Using Open Source Text To Speech (TTS) tools.
- Extracted text and parsed metadata to create chapters and utilized **XTTS** and Retrieval based Voice Conversion (RVC) for cloning and narration.

Aperture Explains AI |Python, LangChain, Transformers

- Created an innovative AI-driven app for educational YouTube video creation from research papers.
- Automated script writing using a **LLaMa** 13B model and **LangChain** for Retrieval Augmented Generation **(RAG).**
- Utilized Tortoise-TTS and RVC for voice cloning, to mimic the voice of GLaDOS from Portal.

Unlisted Skills: - Java - HTML/CSS/JS - Git - PostgreSQL - MySQL - Tableau - Bash - PyTorch - Selenium - Linux - AWS - C/C++ - Docker - Go