Shuolin (Leo) Yin

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Education

University of Toronto — Toronto, ON
Bachelor of Applied Science and Engineering in Computer Engineering + PEY Co-op — *Sep 2023 – Apr 2027*

- Recipient of Faculty Of Applied Science And Engineering Admission Scholarship
- Recipient of Edward S. Rogers Sr. Admission Scholarship

Work Experience

The Institute of Automation, Chinese Academy of Sciences (CASIA) — Beijing, China
Research Assistant under Prof. Yang Yang, Prof. Jinlin Wu and Sr. PD Zhen Chen — *Feb 2024 - Sep 2024*

- Streamlined research on **Multimodal large language models (MLLMs)** through systematic literature review and novel experimental design, developing methodology for **MICCAI 2025 submission**
- Engineered an **end-to-end data pipeline** for benchmark creation using **Python**, incorporating automated quality checks and custom annotation tools, resulting in **75%** reduction in processing time and **40%** improvement in annotation accuracy
- Developed a **Multimodal evaluation framework** using **PyTorch**, benchmarking **SOTA MLLMs** across **multiple dimensions** with metrics for **accuracy**, **robustness**, and **cross-modal consistency**.
- Spearheaded **weekly technical discussions** and authored comprehensive **research documentation**, facilitating knowledge transfer across interdisciplinary teams of **Vertical category experts** and **ML researchers**

VolunTrack Org. — Toronto, ON
President/Founder — *Jun 2022 - Sep 2024*

- Founded and scaled a **Non-Profit Organization** through a structured **Four-tier management system**, growing the company to **50+ members** and establishing partnerships with **100+ global non-profits**.
- Architected an **ML-powered volunteer matching system** using **TensorFlow** and **scikit-learn**, achieving **85% matching accuracy** and reducing manual matching time by **70%**.
- Developed a **full-stack volunteer platform** with **React Native** and **React.js**, integrating **MLOps practices** and **automated model retraining pipelines**, serving **1000+ monthly active users**.
- Implemented **real-time analytics** using **Firebase**, **Cloud Firestore**, and **TensorFlow.js**, deploying **ML models** for volunteer engagement prediction and churn analysis across **100+ organizations**.
- Established **AI innovation program**, leading to **30+** successful ML projects and **10+** conference speaking engagement.

Project Experience

YiXing - AI-Driven Personalized Travel Planner — Toronto, ON
AI Engineering Lead / Co-Founder — *Jun 2023 - May 2024*

- Architected and deployed a **production-grade** LLM system with **Fine-Tuned GPT-Based Models**, training on **1,000+** curated travel itineraries to achieve **85% user satisfaction rate** based on post-trip feedback.
- Engineered a **RAG pipeline** processing **5000+** travel documents using **LangChain**, **Pinecone vector DB**, and **custom chunking strategies**, improving travel suggestion accuracy by **35%** and reducing waiting time by **90%**
- Developed **serverless APIs** using **AWS Lambda** to handle **LLM integration**, **user data management**, and **travel preference processing** for the React Native frontend.
- Led a team of **6**, implementing **A/B testing** and **performance monitoring** to continuously improve fine-tuned model.

ReassurED - AI-Powered Emergency Care Guidance/Navigator — Montreal, QC
AI/ML Project Lead — *Jan 2025*

- Architected a AI-powered healthcare system using **Deepseek-v3**, **React Native (Expo)** and integrated real-time hospital data via **Firestore**, achieving **90%** alignment with standard **Emergency Severity Index** during a 24 hours hackathon.
- Implemented **Few-Shot Learning** through **curated medical examples**, **JSON schema validation**, and **Chain-of-Thought reasoning prompts**, reducing incorrect classifications by **35%** compared to zero-shot baseline.
- Developed a **hybrid recommendation system** combining LLM outputs with weighting algorithm for hospital suggestions, integrating **real-time wait times**, **distance metrics**, and **facility capabilities** with **70%** reduce of user deciding time
- Built scalable **FastAPI** backend processing **100+ concurrent requests/second**, enabling real-time integration between the LLM service and hospital data system with **99%** uptime.

IEEE UofT — Toronto, ON
Web Team Associate — *Jun 2024 - Present*

- Developed and maintained **full-stack web applications** with a **React.js frontend** and **Django backend**, enhancing IEEE UofT's main website and event platforms with a **responsive, user-friendly design**.
- Improved performance by **optimizing APIs and caching**, reducing load times and enhancing **user experience**.
- Collaborated within an **Agile team** to build and deploy new features and ensure a **seamless experience**.

Skills

Programming Languages: **Python**, JavaScript, **C/C++**, C#, HTML, Swift, **MATLAB**
Frameworks & Libraries: **TensorFlow**, **LangChain, OpenCV, YOLO, PyTorch**, React, Node.js, Django
Cloud & DevOps: **Amazon Web Service**, **Google Cloud Platform**, Firebase, Git, CI/CD
Development Tools: **Vertex AI**, Github, Xcode, Unity, Fusion 360, Blender, AutoCAD