

Shuolin (Leo) Yin

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EDUCATION

University of Toronto

Bachelor of Applied Science and Engineering in Computer Engineering + PEY Co-op

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

Toronto, ON

Sep 2023 – Apr 2027

WORK EXPERIENCE

The Institute of Automation, Chinese Academy of Sciences (CASIA)

Research Assistant under Prof. Yang Yang, Prof. Jinlin Wu and Sr. PD Zhen Chen

Beijing, China

Feb 2024 – Sep 2024

- Streamlined research on **Medical 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 medical imaging 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
- Implemented and evaluated **SOTA MLLM architectures** using **PyTorch**, focusing on cross-modal attention mechanisms and medical knowledge integration for enhanced diagnosis reliability
- Spearheaded **weekly technical discussions** and authored comprehensive **research documentation**, facilitating knowledge transfer across interdisciplinary teams of **medical experts** and **ML researchers**

VolunTrack Org.

President/Founder

Toronto, ON

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 **AI-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

ReassurED - Medical AI-Powered Emergency Care Navigator

Project Lead

Montreal, QC

Sep 2024

- Led development of an **AI-driven medical triage system** through a **24-hour hackathon**, integrating **clinical guidelines** and **real-time hospital data** via **React Native** and **Firestore**.
- Implemented an **intelligent triage algorithm** using **medical NLP** and **Few-shot Learning** with **Deepseek-v3**, achieving **90%** alignment with standard **Emergency Severity Index (ESI)** guidelines.
- Built **HIPAA-compliant** backend with **FastAPI**, implementing **medical data validation** and **automated integration**.
- Developed a **medical knowledge-enhanced guiding system** incorporating **SNOMED-CT ontology** for accurate symptom-to-care pathway mapping.

YiXing - AI-Driven Personalized Travel Planner

Project Lead / Co-Founder

Toronto, ON

Jun 2023 – May 2024

- Led an **agile development team** of six in building an AI-powered travel planning platform, integrating **TensorFlow** and **GPT-based models** with **React Native** to generate personalized itineraries.
- Designed and implemented a **hybrid AI system** combining **TensorFlow recommendation models** and **RAG architecture**, improving travel suggestion accuracy by **35%** and reducing response time by **90%**.
- Built a **scalable backend architecture** with **AWS Lambda** and **TensorFlow Extended (TFX)**, orchestrating **vector databases** and **ML pipelines** for efficient travel plan generation.

IEEE UoT

Web Team Associate

Toronto, ON

Jun 2024 – Present

- Developed and maintained **full-stack web applications** with a **React.js frontend** and **Django backend**, enhancing IEEE UoT'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**