

# 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
- Developed a **Multimodal evaluation framework** using **PyTorch**, benchmarking **SOTA MLLMs in clinical medicine** 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 **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 **Firestore**, **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 **Few-Shot Learning** through **medical examples** and **COT reasoning prompts** with **Deepseek-v3**, achieving **90%** alignment with standard **Emergency Severity Index (ESI)** guidelines.
- Built secure backend with **Firestore** and **FastAPI**, implementing **structured medical data processing with SNOMED-CT integration** and web scraped **hospital Data integration** for real-time wait times.
- Developed a **hospital recommendation system** combining **LLM-based assessment** with **weighted algorithm**, factoring in **emergency wait times, facility specializations, and distance metrics** to reduce patient decision time by **70%**.

### YiXing - AI-Driven Personalized Travel Planner

*AI Engineering Lead / Co-Founder*

Toronto, ON

*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 **six**, implementing **A/B testing** and **performance monitoring** to continuously improve fine-tuned model.

### IEEE UofT

*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 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**