

# 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 recommendation 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 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**