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

University Health Network Toronto, ON
Research Intern *May 2025 – Present*
- Conducting research at WangLab (affiliated with Vector Institute and UHN) under the supervision of Dr. Jun Ma.
- Train and refine **foundation models** on large-scale **both 3D and 2D CT and MRI datasets**, focusing on medical imaging representation learning.
- Develop **data curation & preprocessing pipelines** and **fine-tune models** for the **MICCAI FLARE 2025** challenge.
- Benchmark results on **multi-GPU clusters** and contribute findings, code, and figures to **lab publications**.

The Institute of Automation, Chinese Academy of Sciences (CASIA) Beijing, China
Research Assistant *Feb 2024 - Sep 2024*
- Investigated **MLLM hallucination reduction** through **systematic literature review** and experimental design, contributing to methodology planned for **MICCAI 2025 publication**
- Developed **automated data pipeline** for MLLM benchmark creation using **Python** and custom annotation tools, reducing data processing time by **300%** and improving annotation accuracy by **40%**
- Streamlined research communication by delivering **weekly technical presentations** and detailed **progress report**, facilitating effective collaboration across the team.
- Conducted extensive model **experiments on SOTA MLLM** architectures using **PyTorch**, systematically evaluating hallucination reduction methods and identifying key improvement opportunities

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 team to **50+ members** and establishing partnerships with **100+ global non-profits**.
- Architected and developed a **full-stack volunteer management platform** using **React Native** and **React.js** for web/mobile applications, achieving **1000+ monthly active users**.
- Secured a partnership with **Google Cloud Platform**, receiving **cloud credits** and **technical training opportunities** for **20+ development team members**.
- Implemented a **CI/CD pipeline** with **Agile methodology**, leading to the successful deployment of **15+ major features**, **4 major revisions**, and reducing deployment time by **70%**.
- Designed a **scalable database architecture** using **Firebase Realtime Database** and **Cloud Firestore**, integrating with **GCP services** for efficient data management across **100+ organization profiles**.
- Established **tech mentorship program**, connecting students with real-world projects, resulting in **30+ successful project** completions and **10+ conference speaking engagements**.

PROJECT/SCHOOL EXPERIENCE

EZ-Career - Autonomous AI Job Application Agent Toronto, ON
AI Engineer & Full Stack Developer *Sep 2024 – Present*
- Architected a **state-of-the-art multi-agent AI system** using **OpenAI Agents SDK** with an **Agent-as-Tool** pattern, orchestrating specialized agents for end-to-end job application automation.
- Developed **multiple custom Model Context Protocol (MCP) servers** (**playwright_mcp, user_profile_mcp, user_assistance_mcp, memory_mcp**) providing specialized tools for browser control, database operations, and agent memory management.
- Built a scalable **FastAPI** backend with intelligent browser automation via custom **Playwright/CDP MCP server**, enabling precise web interaction and form filling across complex ATS platforms.
- Engineered a **RAG memory system** using **Sentence Transformers** and **Supabase RPC** with **Human-in-the-Loop (HITL)** design to prevent hallucination and ensure factual consistency across applications.

Echo - AI-Powered Sustainable Fashion Marketplace Global
Lead Developer *Jan 2025*
- Secured **2nd Place in Global Finals** at **BCG & Global Spark 'Hack the Globe'** hackathon as sole developer, building an AI-powered mobile marketplace for sustainable second-hand fashion.
- Developed an **AI stylist agent** using **OpenAI API** and **RAG** for personalized recommendations, integrated with a **swipe-based discovery interface** powered by **GCP Analytics** and **Multimodal LLMs**.
- Implemented **Computer Vision-based product authentication** with custom algorithms for item verification and condition assessment, ensuring quality assurance across the platform.
- Built full-stack application using **React Native (Expo)**, **TypeScript**, **Node.js/Express**, and **Supabase (PostgreSQL)** with **JWT authentication** and **Zod validation**.

YiXing - AI-Driven Personalized Travel Planner Toronto, ON

Project Lead / Co-Founder *Jun 2023 - May 2024*

- Led the development of an AI-powered travel planning platform, integrating **Fine-Tuned GPT-based Models** with **React Native** to generate personalized itineraries.
- Designed and implemented a **Retrieval-Augmented Generation (RAG)** system using **LangChain** and **vector databases**, optimizing travel recommendations based on historical user data.
- Built a **scalable backend architecture** with **AWS Lambda** and **Node.js**, employing **RESTful APIs** and **microservices** for high-efficiency data processing.
- Managed an **agile development team** of six, overseeing the full product lifecycle from concept to MVP launch, conducting code reviews, and optimizing system performance.

ReassurED - LLM-Powered Emergency Care Guidance/Navigator Montreal, QC

Project Lead *Sep 2024*

- Led a team through a **24-hour** hackathon, developed a cross-platform emergency healthcare app using **React Native (Expo)** and integrated real-time hospital data via **Firestore**.
- Implemented **Dynamic triage** and hospital **Recommendations system** using **Few-shot Learning** with **Deepseek-v3** and **Custom weighting recommendation algorithm**.
- Built scalable backend with **FastAPI** for real-time hospital info, leveraging web scraping and auto data updates.
- Enhanced user experience with location-based hospital maps using **React-native-maps** and **expo-location**.

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 website performance by **optimizing APIs** and implementing **caching strategies**, reducing load times and enhancing overall **user experience**.
- Collaborated within an **agile team** to build and deploy new features, maintain platform stability, and ensure a **seamless, cross-platform experience**.

SKILLS

Programming Languages: Python, JavaScript, C/C++, C#, HTML, Swift, MATLAB
Frameworks & Libraries: React Native, React.js, Node.js, Django, LangChain, OpenCV, YOLO, PyTorch
Cloud & DevOps: AWS (Lambda), Google Cloud Platform, Firebase, Git, CI/CD
Development Tools: VS Code, Xcode, Unity, Fusion 360, Blender, AutoCAD