Linfeng Gao

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EDUCATION

University of Toronto Sept. 2024 – Present
M.Eng. in Electrical and Computer Engineering *Toronto, Canada*

University of British Columbia Sept. 2020 – Jun. 2024
B.A.Sc. in Electrical and Computer Engineering *Vancouver, Canada*

TECHNICAL SKILLS

Languages: Python, C, SQL, JavaScript
Systems & Backend: REST APIs, Flask, Docker, AWS, Fuzzing Frameworks
AI & LLM Systems: RAG, LLM-based Agents, Prompt Engineering, Evaluation Metrics

EXPERIENCE

Huawei Technologies Co., Ltd. Jul. 2025 – Oct. 2025
Software Intern *Hangzhou, China*

- Reworked **Fuzzilli** generator/mutator for ArkTS (HarmonyOS) with context constraints (scope/type/state), reducing invalid samples; valid-case yield +**6.2%** and edge coverage +**5.3%** under fixed-budget evals.
- Designed **JIT-focused** fuzzing scenarios with warm-up hot loops and engine intrinsics for opt triggers, then differential-tested interpreter vs optimized vs deopt behavior.

Psychometrics and Responsible AI Lab Sept. 2024 – Apr. 2025
Research Assistant (LLM Systems) *Toronto, Canada*

- Built a GPT-based **RAG pipeline** for psychometric literature retrieval and questionnaire drafting (section-aware + token-window chunking, embeddings, FAISS top-k retrieval), indexing 40+ papers per topic.
- Built an evaluation workflow with queries, retrieval quality (Recall@k, MRR) and generation checks (groundedness, citation coverage, duplication), plus pilot reliability screening with the psychometrics team.

Ericsson (China) Communications Co., Ltd. May. 2024 – Sept. 2024
AI Developer Intern *Beijing, China*

- Built a **log-mining pipeline** (SQL extraction + regex/template parsing) to standardize device logs into Template IDs and parameters for downstream modeling.
- Implemented dual-path detection: LogBERT on LogKey sequences (sliding windows) and XGBoost on windowed statistical features to prioritize PA-failure triage for manual review.
- Prioritized low miss-detection; achieved **96.6%** (XGBoost) and **95.1%** (LogBERT) recall on internal validation, corresponding to estimated FNRs of **3.4%** and **4.9%**.

EXPERIENCE

ArcBrief - Research & Daily Briefing Assistant Jan. 2026 – Present
Ongoing Project

- Built **Daily Brief** workflow for recurring topics with scheduled RSS/Tavily ingestion, clustering, structured summarization, and automated Discord delivery.
- Implemented a staged **Deep Research** pipeline (outline -> search -> summarize -> host critique -> reflection -> final report) with refinement loops to improve evidence coverage and source traceability.
- Deployed and operated the **full stack**: FastAPI + APScheduler backend and Discord bot on Railway, Next.js frontend on Vercel, with SQLite-backed topic/report state and REST APIs.

Detection-Based Curbside Parking Recognition System Sept. 2023 – May 2024
UBC Digital Media Lab

- Designed an end-to-end **curbside parking recognition system** using YOLOv7-based object detection combined with motion analysis for parking state inference.
- Trained and optimized deep learning models on **Compute Canada**, focusing on detection accuracy and inference efficiency under real-world street conditions.
- Architected a **cloud–edge pipeline** integrating edge devices, LoRaWAN communication, and a NoSQL backend to support scalable data ingestion.