

YING LEI

(672) 551-3266 ◇ yinglei.hci@gmail.com ◇ Portfolio ◇ www.linkedin.com/in/ying-lei-hci/

EDUCATION

Simon Fraser University

Master of Science in Interactive Arts and Technology (GPA: 4.00/4.33)

Graduate Fellowship (GF) (2025 & 2026), FCAT GF (2025), Helmut and Hugo Eppich Family Scholarship (2026)

Sept. 2024 - Jul. 2026

Vancouver, Canada

East China Normal University

Bachelor of Engineering in Computer Science and Technology (Highest Honors Rank 1/117)

Shanghai Outstanding Graduates Award (2023), The Huaxin Scholarship of ECNU (2022)

Sept. 2019 - Jul. 2023

Shanghai, China

SKILLS

Programming: Python, JavaScript/TypeScript, Kotlin/Java, C/C++, SQL, Bash

Machine Learning: PyTorch, scikit-learn, Deep Learning, Time-series Modeling, NLP, Computer Vision

ML Engineering: Data Cleaning, Data Augmentation, Feature Extraction, Model Training, Model Evaluation, Inference

LLM & Agentic AI: Retrieval-Augmented Generation (RAG), Agentic Workflows, Prompt Engineering

Data Science: Pandas, NumPy, SciPy, Statistical Analysis, Sensor Data (IMU, EEG, fNIRS, facial features)

Backend Integration: Flask, Node.js, REST APIs, Android SDK, WebSockets, HTTP, SQL, Google Cloud, MySQL, Firestore

Engineering Workspace: Linux, VS code, GPU cluster (Slurm), Git/Github, AI-assisted Development (Codex), Miro

SELECTED PROJECT

Portfolio Agentic RAG: Evidence-Grounded Recruiter Concierge

Canada 2026 | [Portfolio](#)

- Built and deployed a recruiter-facing agentic RAG system for grounded portfolio Q&A and job-fit assessment.
- Designed deterministic routing, function calling, hybrid lexical-vector retrieval, rank fusion, and grounded synthesis.
- Added bounded tool execution, graceful fallbacks, rate limits, regression tests, cost controls, and Cloud Run deployment.

WORK EXPERIENCE

Motiv Creative Labs

Victoria, BC (Remote)

Software Developer (AI Systems & Backend), Contract

Sept 2026 - Present

- Building AI backend workflows, including agentic pipelines, data integration, and production-oriented system components.
- Collaborating on technical scoping and system design across AI and backend workstreams.

University of Washington

Seattle, United States

Research Intern (Machine Learning)

Jan. 2024 – Feb. 2025

WatchGuardian: Personalized Just-in-Time Behavior Intervention on Smartwatches

[Portfolio](#)

- Built a three-stage wearable ML pipeline with self-supervised pretraining, fine-tuning, and few-shot personalization.
- Designed data augmentation, synthesis, weighted training, and round-level evaluation for 10-shot user customization.
- Developed a WearOS sensing and client-server inference system for data collection, real-time action detection and intervention.
- Achieved **87.7%** accuracy / **87.3%** F1 and reduced target actions by **64.0%**, outperforming a rule-based baseline by **29.0%**.

The Hong Kong University of Science and Technology

Hong Kong SAR, China

Research Intern (Human-centered AI)

Apr. 2022 – Jul. 2024

AI-Assisted Decision-Making System

[Portfolio](#)

- Modeled human and AI correctness likelihood to support instance-level calibration in AI-assisted decision-making.
- Designed confidence-calibration mechanisms and evaluated decision performance with **500+** participants.

LLM-driven Multimodal Digital Human System

[Portfolio](#)

- Built a GPT-powered multimodal prototype with persona controls and token-aware conversation-history summarization.
- Integrated STT, TTS, and lip-sync video generation through a Flask-based inference workflow.

Institute for AI Education

Shanghai, China

Research Intern (Machine Learning)

Jan. 2021 – Apr. 2022

Interactive Storytelling Agents for Child Safety Education

[Portfolio](#)

- Built an evidence-grounded QAG pipeline over **141** safety knowledge entries and **157** annotated story-knowledge-QA samples.
- Developed SBERT-based two-tower retrieval with adversarial learning and BPR pairwise ranking for knowledge matching.
- Implemented frozen GPT-3 few-shot in-context generation to produce QA pairs grounded in story and retrieved evidence.
- Evaluated retrieval with Hit@K/NDCG and generation with ROUGE-L/BERTScore, plus a user study (N=7) on usefulness.

Affective Computing Models and Systems via Multimodal Physiological Signals

[Portfolio](#)

- Built a dual-stream neural architecture with structural scaling, residual modules, and attention mechanisms.
- Achieved **95.18%** SEED accuracy and up to **98%** parameter reduction with a lightweight EEG model.
- Processed facial data for affective computing, including feature extraction and emotion and personality inference workflows.
- Built a web demo to visualize inferred emotion and personality traits from facial data, supporting public exhibition at WAIC.