Luying Cai

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EDUCATION

British Columbia Institute of Technology (BCIT)	**Burnaby, Canada**
Master of Science in Applied Computing	Sep 2025 – Dec 2026(est.)
University of Southern California (USC)	**Los Angeles, California**
Master of Science in Analytics	Jan 2023 – May 2024
University of Oregon (UO)	**Eugene, Oregon**
Bachelor of Science in Computer Science	Apr 2018 – Dec 2022

SKILLS

- ➢ **Programming:** Python (NumPy, Pandas, Scikit-Learn), SQL, R (data, analysis)
- ➢ **Data & Database:** Data cleaning, transformation, validation, and migration, SQL querying
- ➢ **Testing & Documentation:** System testing, troubleshooting, data mapping, user instructions
- ➢ **Data Science & ML:** EDA, Feature engineering & preprocessing, Supervised learning (classification, regression), Model evaluation, Experimentation & comparison
- ➢ **Statistics:** Logistic regression, statistical inference, fairness & bias analysis
- ➢ **Tools:** Git, Docker, PostgreSQL, BigQuery, Tableau, Excel
- ➢ **Multi-Lingual:** English, Japanese (JLPT N1 – native-level proficiency), Chinese, French (Basic)

WORK & LEADERSHIP EXPERIENCE

Geek Education　　　　　　　　　　　　　　　　　　　　　　　**Vancouver, Canada**
Programming Consulting (Part time)　　　　　　　　　　　　　　　*Feb 2025 – Current*
- Taught Python and Swift, focusing on explaining core programming concepts and code logic to students (Grade8-12).
- Mentored students on building AI-related projects and preparing for the Swift student Challenge 2026.

NeoScholar　　　　　　　　　　　　　　　　　　　**Los Angeles, United States**
AI Research Assistant　　　　　　　　　　　　　　　　　　　　*Mar 2024 – Jun 2025*
- Researched and benchmarked mainstream GenAI and AI media tools, analyzing real-world business use cases and application patterns.
- Built and demonstrated AI-powered chat bot using Dify to showcases multi-agent and conversational workflows.

Chinese Securities Co., Ltd　　　　　　　　　　　　　　　　　　**Beijing, China**
AI Analyst Intern　　　　　　　　　　　　　　　　　　　　　　*May 2023 – Sep 2023*
- Monitored global trends in LLM and developed comprehensive database.
- Independently authored 5 detailed analytical reports on LLM and AIGC applications.
- Crafted visual aids to clarify complex concepts, enhancing stakeholder understanding and decision-making.

PROJECTS

TeamSync Polyglot – AI-Powered Meeting Intelligence Platform　　　**Jan 2026**
https://github.com/cailucky777/teamsync-polyglot
- Developed full-stack application using Next.JS and TypeScript, implementing Vercel AI SDK to stream structured JSON data from LLMs that converts unstructured notes and images into organized summaries.
- Integrated Google's TranslateGemma model architecture to implement an offline-ready translation feature supporting 55 languages, designed to process text locally on-device without sending sensitive data to external cloud APIs.
- Built the codebase using Manus's AI-assisted features (Composer) to generate type-safe React Server Components and responsive Tailwind CSS layouts using shadcn/ui library.

Diabetic Hospital Readmission Risk Prediction   **Sep 2025 - Dec 2025**
https://github.com/bing-er/hospital-readmission-prediction
- Built end-to-end ML pipeline predicting 30-day readmission risk from UCI Diabetes dataset. Implemented cost-sensitive learning to address severe class imbalance (11% positive rate).
- Benchmarked five algorithms; Gradient Boosting (XGBoost/LightGBM) achieved peak AUC of 0.69, outperforming linear baselines by over 15%.
- Used SHAP for interpretability, identifying "prior inpatient visits" as top risk factor. Conducted fairness audit to evaluate performance disparities across race and gender.

Analysis GenAI vs. Self-Developed Credit Risk Models   **Sep 2025 - Dec2025**
- Conducted comparative study on Lending Club credit risk data, evaluating automated Generative AI (Grok-2) workflow against custom-built Python pipeline.
- Achieved highest AUC (74.8%) with GenAI-generated XGBoost model. Manual pipeline
- demonstrated superior reproducibility, auditability, and methodological control for production.

Enterprise System integration Project   **Sep 2025 – Dec 2025**
- Designed and supported integration of Shopify e-commerce, Odoo ERP, and warehouse operations, assisting with system configuration and data alignment cross sales, inventory, and fulfillment workflow.
- Participated in data review, cleanup and validation for orders, SKUs, customer records, and inventory data to ensure consistency during platform synchronization.
- Documented process flows, data mappings, and user instructions to support internal teams and future system maintenance.

Hydro One Smart Meter Project   **Mar 2024 – May 2025**
- Participated in issue identification and mitigation planning, analyzing potential impacts and supporting the development of practical mitigation strategies.
- Produced clear documentation and summaries to support stakeholder communication and internal team reference in regulated enterprise environment.

KianaTrack: Enhancing Industrial Efficiency with RTLS   **Mar 2024 – May 2025**
- Enhanced the operational efficiency of IoT devices by optimizing geospatial queries, achieving 30% improvement with advanced cloud computing techniques from CARC.
- Led development of an Enterprise Facility Management System that leverages MAC address and location data to streamline maintenance, enhance security, and boost emergency response capabilities.