

Hannah Sun

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WORK EXPERIENCE

Ternary

Jun 2025 – Aug 2025

Software Engineer Intern, Product Delivery Team

Seattle, WA (Remote)

- Integrated Meta Prophet into the forecasting API, enabling daily and weekly cloud cost predictions
- Developed cross-validation, hyperparameter tuning, and confidence interval support to improve forecast accuracy
- Built backend workflows bridging Go and Python, with schema validation tests and Terraform deployments
- Enhanced the UI with a moving slideshow of interactive line graphs for the top five costliest business dimensions

ProQuest LLC, University of Michigan College of Engineering

Jan 2024 – Dec 2024

Capstone Project Student Developer

Ann Arbor, MI

- Automated segmentation of historical Detroit Free Press front pages using deep learning and computer vision
- Built an MLOps pipeline integrating LLMs and mixture models for text and noise detection, validated with A/B testing
- Reduced segmentation cost to half of manual methods while increasing processing speed to 12 pages per minute

Pachira Information Technology (Hengqin) Co., Ltd

May 2024 – Aug 2024

NLP Algorithm Intern

Zhuhai, China

- Enhanced an in-car AI voice assistant using a RAG pipeline and optimized LLM prompts
- Created a new function to handle warning light queries and deployed multiple system iterations in simulator testing
- Designed and implemented multi-intent recognition, response refusal, and query translation modules

PROJECT EXPERIENCE

InstaAIModel: Automating Social Media Marketing

Jan 2025 – Apr 2025

- Automated Instagram post captions with real influencer recommendations matching the style of each generated post
- Fine-tuned LLaMA-3.1-8B, Qwen2.5-7B, and Mistral-7B models on 1.6 million posts to generate candidate captions
- Embedded influencer bios and post histories with SBERT, retrieving top-k matches using FAISS similarity search

Distributed Web Search Engine

Jan 2025 – Apr 2025

- Implemented a scalable web search engine that indexes large-scale datasets using TF-IDF and PageRank
- Built a MapReduce-based processing framework to handle web document parsing, indexing, and query evaluation
- Developed fault-tolerant mechanisms within MapReduce workflow to ensure robust distributed task execution

MobiDrop (Zhejiang) Co., Ltd

Nov 2023 – May 2024

- Designed a pre-training step for scGPT, a Transformer-based model predicting single-cell gene expression levels
- Sampled 300,000 human blood cells from the CELLxGENE repository, binning and tokenizing highly variable genes
- Modified the Transformer encoder to jointly embed gene names and expression levels for RNA sequencing tasks

EDUCATION

University of Washington

Degree Expected: June 2027

MS in Data Science

Seattle, WA

University of Michigan

May 2025

BS in Data Science, Minor: Mathematics, GPA: 3.71/4

Ann Arbor, MI

Courses: ML, NLP, Data Mining, Web Systems, UI/UX, Databases, Financial Math, Statistics, Probability, Matrix Alg, Calculus, Diff Eq

SKILLS

Languages: C++/C, Go, Python, Java, R, SQL, PL/SQL, Scala, Bash, JavaScript, TypeScript, HTML, CSS

Tools: Git, Linux, AWS, GCP, Docker, Terraform, SQLite, MongoDB, IBM Db2, DBeaver, Jira, Figma

Frameworks & Libraries: PyTorch, TensorFlow, scikit-learn, Hadoop, LangChain, FastAPI, React, NumPy, Pandas, Dask