

# Yueran (Hannah) Sun

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## WORK EXPERIENCE

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### Ternary

*Software Engineer Intern*

**Jun 2025 – Aug 2025**

*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

*Capstone Project Student Developer*

**Jan 2024 – Dec 2024**

*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

*NLP Algorithm Intern*

**May 2024 – Aug 2024**

*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

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### 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

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### University of Washington

*MS in Data Science*

**Degree Expected: June 2027**

*Seattle, WA*

### University of Michigan

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

**May 2025**

*Ann Arbor, MI*

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

## SKILLS

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Languages: C++/C, Go, Python, Java, R, SQL, PL/SQL, Scala, Bash, JavaScript, TypeScript, HTML, CSS  
Tools: Git, Linux, AWS EC2, Docker, Terraform, FAISS, SQLite, MongoDB, IBM Db2, DBeaver, GCP  
Frameworks: PyTorch, Hadoop, TensorFlow, scikit-learn, NumPy, Pandas, Dask, LangChain, FastAPI, React