

# Zanqi Liang

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## EDUCATION

### Bachelor of Computer Science

Sep 2024 - 2026

University of Washington

Seattle, WA

- 4.0 GPA. Phi Theta Kappa member. Focus on NLP, large language model, and vision language model.
- Conduct research on Vision Language Model in the Amazon-sponsored project "Robotic Manipulation in densely packed containers" at UW. Evaluated current cutting-edge VLM such as Llava, Vila, Florence-2, etc.

### Awards and Achievement

- McMaster Honor Award, for Outstanding Student Performance.

## SKILLS

**Languages** Python | Java | C++ | C | C# | JavaScript | TypeScript | R | x86-64 assembly | MIPS | Ruby

**Technologies** AWS BS/EC/EC2/ELB/SageMaker | PyTorch | Docker | React.js | Flask | Redis | Spark | GDB | Slurm

**Areas of Experience** Machine Learning | Mathematics | Data structures | Agile | distributed storage | web services | OS

## EXPERIENCE

### Facebook/Meta

Jan 2023 - June 2023

Machine Learning Engineer

Bellevue, WA

- Developed the metrics collection and issue detection components of a query engine that supports the company's ads ML training data workload. Resulting in saving 20 million of cost.
- Utilized tools such as C/C++, GDB, and Valgrind for the project.
- Delivered high-quality code that must have less than 1 bug in 10,000 lines of code. I achieved this by writing unit tests, thinking and learning about the code, and performing integration tests before shipping to beta users.

### Facebook/Meta

Sep 2019 - Dec 2022

Solution Engineer

Hong Kong

- Led advertisers to maximize their reach and engagement on the Facebook platform by demonstrating best practices and insight about various advertising products.
- Developed an onboarding website (React.JS and PHP) for Chinese advertising agents. 12 of the largest agents in China used it to interact with Facebook Business, resulting in 200 million of revenue annually.
- Taught a course about programming in Python to nontechnical employees in the company.

### EPAM

June 2018 - June 2019

Software Engineer

Shenzhen, China

- Became a technical lead of a team of 8 people, including 7 developers and 1 UI designer. I achieved this by understanding and thinking about our customer's problems (in the financial industry) deeply and delivering high-quality code.
- Utilized C#, Spark, SageMaker, and xUnit to develop a bond management program.

## NOTABLE PROJECTS

### Coordinates Tokenizer for Vision Language Model

Jun - Sep 2024

Researcher in UW Robotic Lab

Seattle, WA

- Independently designed and implemented a tokenizer that has a special representation for the pixel coordinates on an image, as opposed to using regular numbers LLM learned from internet text.
- Python development using the HuggingFace Transformers library.
- Trained two Vila models (3b and 13b parameters) with this tokenizer. Evaluated in the robotic object detection dataset Armbench. Observed around 8% improvement.

### COOL Compiler

Dec 2023 - May 2024

Independent JAVA Developer

Bellevue, CA

- Built a compiler for an object-oriented language called COOL.
- The goal of the project is to learn about compiler development. I built the compiler from scratch following the organization of a typical compiler: lexer, parser, semantic analyzer, and code generator.
- Learned the following tools in the project: JAVA, JLex, CUP, and MIPS instruction set.

### Image Style Transfer

Sep 2021 - May 2022

Development Lead

Hong Kong

- Led a team of 4 engineers in designing a web application for users to upload their images and perform style transformation on them.
- The project won the hackathon within Facebook in 2022. I presented our product to then CTO Mike Schroepfer.