

Fu, Xinyue (Freya)

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY

Master of Computer Science: compiler design, Advanced Operating system, Cloud computing

ATLANTA, GA

Expected graduation: Dec 2026

UNIVERSITY OF MICHIGAN

B.S in Computer Science & B.S in Mathematics

ANN ARBOR, MI

Aug. 2020 -May 2024

PROFESSIONAL EXPERIENCES

ALIBABA CLOUD

Software Engineer Intern (Rust)

HANGZHOU, CHINA

Jul. 2024 - Sep.2024

- Spearheaded full stack development of Retrieval-Augmented Generation (**RAG**) chatbot with customized embedding corpus, **Cloud Object Storage**, provided automated consultation services, handled 1,000+ inquiries/week with 95% accuracy rate
- Maintained **Kata Container** for **runtime and DFX**, resolved 10+ tickets and 30+ bug reports, including slow response, incorrect whitelists, lifetime call issues and database pulling connection
- Collaborated with cross-functional teams to streamline operations. Designed updated version for **alert system** monitoring runtime activities, separating logs and alerts, conducted visualizations, reducing SLA response time by 40%

XIAOMI INC.

Machine Learning Engineer Intern (python)

BEIJING, CHINA

Apr. 2024 – Jul.2024

- Implemented DTPP model (Differentiable Joint Conditional Prediction Cost Evaluation Tree Policy Planning), focusing on joint prediction of trajectories and cost eval for **autonomous driving**, improved prediction accuracy by 20%
- Conducted extensive tests on **position encoding** techniques, visualizing results to analyze differences and improve model
- Collaborated with perception & control teams integrate prediction models into the **full pipeline** ensured real-time performance

AMERICAN FAMILY INSURANCE

Data Analyst Intern

JACKSONVILLE, FL

May 2023 – Aug. 2023

- Designed and implemented an automated **ETL pipeline** for monthly analytics dashboard updates using **Spark**, **JDBC**, and **RESTful APIs** within GCP DataProc; orchestrated Airflow servers across GCP/AWS for scheduling and utilized EMR/DataProc clusters for execution. Integrated data into **AWS Redshift** and **GCP BigQuery** for advanced analytics, achieving an **8-hour monthly reduction** in repetitive tasks through streamlined processes
- Utilized **Natural Language Processing** and **Machine learning** tools to categorize the insurance policies and new reports with three thousand of descriptions needed to be tagged manually, ended with **95% accuracy** and 90% reduction of the time
- Led research on After Call Work (ACW) in Sales & Service Operations, applied regression models and advanced data analysis to provide insights for process optimization and demand reduction, effectively communicated through **Tableau** reports

PROJECT EXPERIENCES

CHATTER, REAL-TIME MESSAGING MOBILE APP

Full stack development (AWS EC2/ JavaScript/ SwiftUI)

ANN ARBOR, MI

Aug. 2023 – Dec. 2023

- Led a team of 5 to develop a mobile app providing a real time messenger platform, including functionalities like text messages, audio messages, live video call, and account authentication, with **100% usability** and 98% user satisfaction
- Developed cross-platform front-end (Kotlin/SwiftUI/JavaScript) enabling Android and iOS interoperability.
- Engineered a live communication flow utilizing **WebSocket** for messaging and **WebRTC** for group video calls, while employing Python **Django**, **Daphne**, and FFmpeg within an **AWS EC2** environment for backend operations

INSTAGRAM WEBPAGES CLONE

Full stack development (Python/ SQL/ React/ Flask)

ANN ARBOR, MI

May 2023 – Aug. 2023

- Engineered an Instagram-like web application utilizing **React/JS** (front-end), **Flask**(back end), and **SQLite** (database)
- Deployed the platform with **16 key features** such as infinite scroll, authentication, cookies, posts, likes, etc. to **AWS**
- Created a Python-based, single-machine, multi-process, and multi-thread **MapReduce** server. Incorporated busy-waiting and fault tolerance capabilities to efficiently process user-submitted tasks; **Shell scripts** for management and testing
- Implemented a search engine from scratch, use tech such as **Hadoop MapReduce**, **text segmentations** deliver search results

RESEARCH

FUTURE OF PROGRAMMING LAB

Researcher & Developer

ANN ARBOR, MI

Dec 2023 – Aug 2024

- Developed **RustViz2**, a visualization tool for **Rust** shows timelines of code concepts like ownership, borrowing, and lifetimes
- Analyzed feedback from 61 students and compared with RustViz1, significantly increase 54% efficacy and comprehension
- Innovated the front-end by upgrading the **SVG generation process**, adding 78% visualization engagement and interactivity

MICHIGAN TRAFFIC LAB

Autonomous Vehicle (AV) Software Research Intern

ANN ARBOR, MI

Jan 2024 –Jul. 2024

- Created an efficient and reliable **AV simulator** with accurate real-life scenarios using SUMO
- Designed the database and software communication system between macro-simulators and micro-simulators

TECHNICAL SKILLS

- **Programming Languages:** C++, Java, Python, TypeScript, JavaScript, HTML, CSS, SQL, Go, Rust, Swift, Kotlin
- **Frameworks:** React, Flask, .NET, Spring Cloud, Django, Vue.js, Express, Node.js, Apache Airflow, PySpark, Junit, Pytorch
- **Technologies:** AWS, WebSocket, k8s, PostgreSQL, Docker, Redis, Grafana, MongoDB, Git, TCP, , ETL process, bootstrap