

Yuqing Qiu

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EDUCATION

Carnegie Mellon University - School of Computer Science

M.S. in Computation Data Science, System Track

Pittsburgh, Pennsylvania

Dec. 2023 (expected)

University of Michigan

B.S.E in Computer Science, Minor in Mathematics

Ann Arbor, Michigan

May 2022

GPA: 3.95/4.00 | Honors: James B. Angell Scholar, Dean's List, University Honors

Selected Courses: Data Structures and Algorithms, Database Management, Intro. to Distributed Systems, Computer Architecture, Web Systems, Intro. to Operating Systems, Compiler Construction, Computer Networks, Computer Vision

Shanghai Jiao Tong University

B.S.E in Electrical and Computer Engineering

Shanghai, China

Aug 2022

GPA: 3.84/4.00 | Honors: Academic Excellence Scholarship

SKILLS

Programming languages: C/C++, Python, MATLAB, Rust, Golang, SQL, Verilog, JavaScript, HTML/CSS, Kotlin

Frameworks: PyTorch, PySpark, Flask, React.js, Rest API, AWS EC2, SQLite3, MongoDB, Django

PROFESSIONAL EXPERIENCE

Intel Corporation

Shanghai, China

Deep Learning Software Engineering Intern

May 2021 – Aug. 2021

- Built the recommender system on WeChat dataset consisting of more than 10 million video feeds utilizing Wide & Deep, DeepFM, XGBoost model and AutoML framework to predict user actions such as likes and comments for 72% accuracy
- Encapsulated PySpark RDD operations in Friesian to develop large-scale end-to-end recommender system for distributed big data
- Optimized DLRM data preprocessing on Twitter dataset by adapting Spark join strategies and reduced the time from 13h to 1.2h
- Deployed sentimental analysis PyTorch example on Orca framework and seamlessly scaled out from single node to large clusters

University of Michigan Transportation Research Institute

Ann Arbor, Michigan

Machine Learning Intern & Research Assistant to Dr. Carol Flannagan

May 2021 – Dec. 2021

- Innovated unsupervised learning algorithms to achieve 99% accuracy and 12% data utility improvement on CIFAR dataset
- Designed the sequential sampling pipeline to resolve imbalanced data issues in training and reduced bias by 24%
- Modeled deep learning algorithms to adapt sequential sampling to 3D scenario on JAAD dataset for driver behavior detection

University of Michigan CSE SymbioticLab

Ann Arbor, Michigan

Research Assistant to Dr. Mosharaf Chowdhury

June. 2021 – May 2022

- Investigated existing inference serving systems and discovered new context of scheduling algorithm for dynamic inference model
- Explored 10+ NLP models and synthesized 20+ evaluation datasets integrating 1998 World Cup and Microsoft Azure job traces
- Deployed the proposed bucketing algorithm on created workloads and utilized statistical and visualization tools in Python like Pandas and Matplotlib to perform data analysis for job completion, SLO satisfaction and resource utilization

PROJECT EXPERIENCE

Highlight Capturer | Shanghai Jiao Tong University

May 2022 – Aug. 2022

- Developed and deployed an android app for automatic highlight capture in **Kotlin** with **Django** backend and SAMP-Net model

Distributed and Fault-Tolerant Key/Value Services | University of Michigan

Jan. 2022 – May 2022

- Engineered a sharded storage system in **Golang** using consistent hashing to support intensive Get, Put and Append RPC requests
- Implemented **Paxos** replication Protocol to tolerate network and server faults, and improve load balance and availability by 10x

3-Way Superscalar R10K-Style Out-of-Order Microprocessor | University of Michigan

Jan. 2022 – May 2022

- Designed, built, and synthesized a 3-way scaled processor in **Verilog** with out-of-order instruction execution, register renaming, prefetcher, GShare BP and BTB to support 32 bits RV32IM ISA and reduced CPI by 53% compared with in-order processor

Online Social Media Platform | University of Michigan

Jan. 2022 – May 2022

- Developed website akin to Instagram with posts, comments, and follows in **Python** using **SQLite3** database and **Flask** backend
- Built client-side dynamic pages on the frontend by writing **React.js** and making AJAX calls to the **REST API** in **JavaScript**

Compiler Construction | University of Michigan

Sep. 2021 – Dec. 2021

- Designed a 64-bit end-to-end compiler in **Rust** using lexical analysis to support multiple data types, binary arithmetic, conditions, mutable arrays, function declarations and calls, and assembly code generation