

Tianyin (Andrew) Wang

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Education

Carnegie Mellon University

Master of Science in Information Networking

Aug. 2023 - May 2025 (Expected)

Pittsburgh, PA

South China University of Technology

B.Eng. in Computer Science and Technology

Sept. 2019 - July 2023

Guangzhou, China

Technical Skills

Languages: Java, C/C++, Python, C#, SQL, JavaScript/Typescript, HTML/CSS

Technologies: Docker, Kubernetes, React.js, Node.js, Kafka, RabbitMQ, JPA, Elasticsearch, Flask, Express

Development: Git, AWS, CI/CD, Unit Testing, Design Pattern, OOP, DevOps, Unix/Linux

Experience

China Unicom

Feb. 2023 - June 2023

Software Engineer Intern

Guangzhou, China

- Leveraged **Spring Boot** and RPC framework HSF to develop **microservices**-based RESTful APIs and middleware; built corresponding **MySQL** schema and utilized **Redis** for caching.
- Developed the order data query solutions with **Elasticsearch** Java client, providing interfaces to manipulate indexes and documents, and built term query and fuzzy query with asynchronous execution.
- Implemented scheduled tasks to delete outdated SMS data from the database and cached data from Redis, freeing up space by 10%; ensured data consistency and avoided race conditions via **Jedis** distributed lock.
- Collaborate with the Site Reliability Team to deploy services by **Kubernetes** in production environments; services being used by 50+ team members.

Paul G. Allen School of CSE, University of Washington

Apr. 2022 - Aug. 2022

Summer Research Intern

Remote

- Based on multimodal learning, proposed a novel architecture for text paraphrasing. [Slides](#)
- Conducted experiments and developed the text paraphrasing system using **Python** and **PyTorch**. [GitHub](#)

Projects

Smiling Faces Analysis Website | *Typescript, Express, React, AWS, GCP*

[Deployment](#)

- Built a full-stack website to analyze facial emotion in Wikipedia by ML model; deployed it on **Amazon EC2**
- Utilized Long Running Operation with Polling Pattern to avoid client timeouts when waiting for results
- Accelerated responses by 78% through concurrent requests to Wikipedia and the **Google Cloud API**

Linux File Management HTTP Server | *C++, Linux, Socket*

[GitHub](#)

- With Linux sockets, built a Reactor-based system to concurrently demultiplex and dispatch events
- Accomplished a thread pool to call threads to process network I/O events in blocking queue
- Devised a timer leveraging ascending linked list to simulate HttpSession for Cookie authentication
- Created a semi-asynchronous logging system to efficiently write logs to disk

E-commerce Website | *Java, JavaScript, Spring Boot, React, Kafka, JPA*

[GitHub](#)

- Built and deployed an e-commerce demo website for customers to shop and sellers to manage products/orders
- Constructed frontend with React, backend with SpringBoot and database with Hibernate **JPA** and **MySQL**
- Increased system's throughput by 20% using multiple threads to consume messages in **Kafka** queue

Dynamic Memory Allocator (malloc) | *C, Low-level Programming*

- Applied segregated list, better-fit algorithm, block footer, and mini-block for optimization, achieving a 74.3% space utilization and increasing throughput by 41%, ranking 5% on the scoreboard