HAROLD(ZHINING) WANG

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EDUCATION

Northeastern University, Boston **Sep2021 - Dec2023**

- **Master of Science in Computer Science,** GPA 3.71

University College Dublin & Beijing University of Technology **Sep2017 - July2021**

- **B.Eng. in computer science - Internet of Things** (Joint Degree), GPA 3.62

SKILLS

- **Programming Languages:** Java, JavaScript, C, HTML, Python, SQL, MATLAB, Verilog-HDL, Linux Shell
- **Tools & Frameworks:** Git, Spring, MyBatis, React, Node, MongoDB, DynamoDB, Redis, Maven, Gradle, RabbitMQ, Docker, Elasticsearch, CI/CD, Kubernetes, AWS, Nginx.

EXPERIENCE

Northeastern University **Sep2023 - Present**

Teaching Assistant| *CS6650, Building Scalable Distributed Systems* *Seattle, US*

- Assist teaching and grading, help students understand concepts of metrics, microservices, and tools such as **AWS SQS**, **Aurora**, **RabbitMQ**, **JMeter**, **Redis**, and build scalable distributed systems via assignments and sessions.

JreamScape LLC **Jul2023 – Sep2023**

Software Engineer Intern| *Python, AWS, GPT API, React.js* *Remote, US*

- Worked on a project that generates videos based on MoviePy, Azure speech-text recognition, GPT prompts. Managed to get synced lyrics dictionary from audios. Automated API communication with the short-video platforms using **AWS** auth and **Selenium**. Created UI interface to automate the project for scheduled uploading and content preference using **React**.

Chinese Academy of Sciences **Jan2020 - Feb2020**

Engineering Intern | *Python, JavaScript, MATLAB, React.js, Machine Learning* *Suzhou, China*

- Constructed an internal testing web page with **React.js**, **Redux** and **Ant Design**. Applied prioritized loading and Service Worker for caching on the client side to enhance the performance.
- Conducted research of Few-shot learning algorithms for wind turbine blade flaw detection, applied multiple evaluations to the proposed models in papers using Python. Tuned the crucial hardware parameter in products using MATLAB.

Kingdee Software **Jul2019 - Sep2019**

Software Engineer Intern, Backend | *Java, MySQL, Spring, Git, RESTful, gRPC, Redis* *Shenzhen, China*

- Worked in an enterprise data visualization and analysis development team of an ERP software provider. Responsible for implementing comment related functionalities. Designed data models and **SQL** queries, and ensured support of comment threading and nesting. Implemented **RESTful** APIs and wrote an interceptor for **pagination**. Cached user bios info with **Redis**, and optimized the **gRPC** call with payload compression, connection pool, resulting in improving the overall response by *30%.*
- Collaborated closely with a major stakeholder and resolved data formatting issues in the product.

PROJECTS

Multi-Tasking Operating Systems Kernel | *C, Linux, X86 Assembly, GDB, QEMU*

- Used **C**, **assembly**, **Linux** kernel design patterns to build a demo multi-tasking OS Kernel that has an interactive **shell**, FAT16 file system, with the ability of memory management, paging, interrupt, crash-handling, ELF-files loading.

Google Meet clone – Real time online conferencing | *Node.js, JavaScript, WebRTC, Sokcet.io*

- Used **Node.js** to develop a web-based conferencing application, with functionalities of real-time screen sharing, video streaming, recordings, and file sharing. Deployed on **Heroku**, with an avg **latency** of under *140ms* in the test of *10* participants.

Microservice Structured News Forum | *Java, RabbitMQ, MongoDB, Redis, AWS, Docker, Elasticsearch, JMeter*

- Created a News forum with user authentication, file-uploading by GridFS, account administration, content management with **Spring-Cloud.** Applied **RabbitMQ** to decouple auditing and scheduled publish to improve scalability. Built a cache with **Redis** while ensuring the data consistency. Used Elasticsearch for News search. Deployed on **AWS EC2** with **Docker** and used **JMeter** for **load testing**. Utilized **AWS ELB** to improve the **throughput** by *90%, to* over *1800/s,* and *p99* response time under *100ms*.

3D Facial Reconstruction Application | *JavaScript, WebGL, React,js, Nginx*

- Developed an interface of a machine learning reconstruction algorithm by **WebGL** and **React.js** that renders the **JSON** 3D data based on the object illumination patterns with the provided 2D facial images.
- **Accelerated** the application by over *40%* from implementing an observation-distance based **multi-level rendering.**