Yuxin Ding

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Education

Duke University Aug 2022 - Expected May 2024
Master of Science in Electrical and Electronics Engineering (Software Development Track) *Durham, NC*

University of Liverpool Aug 2018 - Jul 2022
Bachelor of Science in Information and Computing Science. ***GPA:*** *3.88/4.0* *Liverpool, United Kingdom*

Technical Skills

Languages: Java, C++, JavaScript, C#, Python, SQL, TypeScript, HTML/CSS, PHP, Latex, Verilog
Frameworks/Databases: Spring Boot, Django, Redis, MyBatis, Node.js, React.js, Vue.js, Drupal, PostgreSQL, MySQL
Tools/Technologies: AWS, Microsoft Azure, Linux, Docker, JMeter, RabbitMQ, Kafka, Git, Emacs, Valgrind, GDB, Android

Experience

Web Developer Jan 2024 - Current
DukeLIFE Office, Duke University *Durham, NC*

- Developed a website for over **1000** Duke's Low-Income, First-Generation undergraduates using **Sites@Duke Pro**.
- Led a **WordPress** to **Drupal** migration, utilizing **PHP** and **Drupal APIs** for custom module development, resulting in a **20%** decrease in page load times.
- Collaborated with Duke's Creative + User Experience team and stakeholders to develop a website aligned with Duke's branding standards, employing **Scrum Agile** methodologies, resulting in a **40%** increase in user engagement.
- Enhanced website with advanced **JavaScript**, **HTML/CSS** for a responsive, interactive user experience.

Software Engineer Intern Jun 2023 - Aug 2023
Fanaticus XR *Atlanta, GA (Remote)*

- Developed a file upload and room creation web page for pet owners to upload text and video memories into a **3D immersive** world connected to **Mozilla Hubs**.
- Worked with 2 members of the **AR/VR** team to develop a **serverless** backend using **AWS**, **Node.js**, and **RESTful** API and create features for real-time upload tracking and a drag-and-drop interface with **ReactJS**.
- Reduced file upload times by **61%** using **multipart** uploads with **AWS S3** transfer acceleration.
- Contributed to developing a virtual platform in dynamic **startup** environment, enhancing user engagement by **30%**.
- Reduced costs by **42%** by analyzing AWS billing, accurately forecasting cost and budget with AWS Explorer, downsizing and terminating **EC2** instances with Amazon CloudWatch and Instance Scheduler.

Projects

Distributed File Storage System | ***Java, Spring Boot, MyBatis, MySQL, Redis***

- Developed a file storage system, supporting user register/login, file upload/download, recycle bin, and file sharing features.
- Reduced system processing time by **35%** through asynchronous decoupling using **Spring events** and **RocketMQ**.
- Improved query response times by **40%** via **JMeter** for pressure testing, implemented caching with **Caffeine** and Redis, and integrated the Redis **bloom filter**.
- Optimized local storage engine using 'sendfile' for efficient **zero-copy** data transfers, boosting storage efficiency by **40%**. Further enhanced system scalability by integrating with **OSS** for robust cloud backups.
- Created a **distributed locking** solution with Redis and **ZooKeeper** to ensure data consistency.

Mini Amazon E-commerce System | ***C++, Django, PostgreSQL, Docker***

- Built a full-stack web application modeling the Amazon system with an **8-person** team, achieving near **100% accuracy** in simulating the complete process from product purchase to package delivery.
- Elevated development efficiency by **50%** through **Google Protocol Buffers**, enhancing communication reliability among warehouse simulators and delivery systems.
- Developed a **C++** backend server integrated with PostgreSQL, leveraging **TCP/IP** sockets and **ACK/SEQ** protocols for robust data transmission.

Multi-UVC Camera Live Streaming Platform | ***Java, Android***

- Established a live streaming platform with **multiple UVC cameras** on Android to enhance multi-angle broadcast capabilities. Employed Java and **Android SDK** for core development.
- Integrated **RTSP/RTMP** protocols for efficient video streaming, significantly reducing streaming latency by **25%**.
- Enhanced user engagement by **40%** through the implementation of dynamic voice wave animations using **OpenGL ES**, which facilitated real-time audio visualization.
- Optimized app performance with **Android NDK** and enhanced debugging via **ADB WIFI** in Android Studio.