ZIJIAN ZHONG

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EDUCATION

University of Southern California — Los Angeles, CA
Master of Science in Computer Science · 3.6/4.0 GPA — August 2022 - May 2024

University at Buffalo — Buffalo, NY
Bachelor of Science in Computer Science · 3.7/4.0 GPA with high distinction — August 2018 - May 2022
Minor in Mathematics

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, C#, Scala, JavaScript, TypeScript, OCaml, SQL, HTML, CSS
Frameworks & Libraries: React, Angular, Spring Boot, Unity, REST API, Bootstrap, Tailwind, Flutter, Node.js, express.js, OpenGL
Database: MySQL, MongoDB, PostgreSQL
Cloud & DevOps: AWS (EC2, S3, Lambda, RDS, CloudFormation), GCP (App Engine), Docker, Kubernetes, Git, GitHub, Postman, CI/CD

PROFESSIONAL EXPERIENCE

University at Buffalo — Buffalo, NY
Research Assistant (Software Engineer) — January 2021 - September 2021

- Collaborated with interdisciplinary teams in an Agile/Scrum environment to refine app design, enhanced user engagement by 20% through streamlined navigation and improved accessibility features, resulting in higher retention and a 15% increase in daily active users.
- Processed and analyzed complex datasets using Python for stress measure and prediction purposes
- Co-author of research paper "Stress prediction using micro-EMA and machine learning during COVID-19 social isolation."

CERTIFICATIONS

- AWS Certified Solutions Architect - Associate, AWS
- AWS Certified Developer - Associate, AWS

PROJECTS

eBay Shopping App
Angular, Java, JavaScript, Mobile App, Web App, MongoDB, Google Cloud, Bootstrap, NodeJS, UI/UX

- Developed a full-stack Angular and Node.js e-commerce platform integrated with the eBay RESTful API, leveraging MongoDB for scalable data storage and deploying on Google Cloud (App Engine) for high availability.
- Implemented microservices architecture for modular scalability, implemented CI/CD pipelines, and followed TDD to ensure code quality.
- Implemented responsive front-end UI using Bootstrap, improved site performance by 30%.
- Improved site performance by 30% and employed OAuth 2.0 and JWT-based authentication for secure user sessions.
- Implemented cross-platform capability with Java to provide seamless shopping experience for users who use mobile app.

Text Chat Application
C++, Socket Programming, TCP, Networking

- Engineered a C++-based client-server messaging application using socket programming and TCP protocols.
- Designed a robust architecture supporting unicast and broadcast messages and implemented offline messaging queues.
- Utilized network-level security and load testing strategies to ensure reliable communication under high concurrency.

Ray Tracing
C++, OpenGL, Computer Graphics

- Created a C++/OpenGL-based ray tracing engine for rendering complex surfaces with advanced lighting, shadows, and anti-aliasing.
- Employed supersampling techniques and optimized rendering algorithms to reduce artifacting and improve computational efficiency by 50% with multithreading optimization.

PUBLICATIONS

- Li, H., Zheng, E., Zhong, Z., Xu, C., Roma, N., Lamkin, S., Von Visger, T. T., Chang, Y.-P., & Xu, W. (2022). Stress prediction using micro-EMA and machine learning during COVID-19 social isolation. Smart Health, 23, 100242.