Tonglu Yang

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EDUCATION

University of Wisconsin-Madison Sep 2021 – May 2024
Bachelor of Science, Computer Science Madison, WI

- **GPA:** 3.80/4.00 | **Awards:** Linda B. Stern Scholarship for Women and STEM (**$5000**), Dean's List

WORK EXPERIENCE

Full Stack Developer | Wisconsin Athletics Apr 2022 – Present
C#, MySQL, .NET, HTML, CSS, JavaScript, AngularJS, Azure Madison, WI

- **System Design**: Scoped and built a cost-effective, scalable C# questionnaire system, cutting third-party app expenses by $3000 annually. Empowered users to distribute and complete customized questionnaires.
- **Large Scale Database**: Established a MySQL database for 900+ athletes, conducted data validation and unit testing in .NET MVC, ensuring streamlined data procedures and improving query response time by 13%.
- **Frontend Development**: Engineered reusable components with tag helpers, reducing development time by 40%; improved the interactivity in JavaScript and AngularJS, resulting in a 20% increase in user engagement.
- **CI/CD Pipeline Integration:** Onboarded pipelines in Azure, connected with Slack for real-time streaming notifications. Monitored commits, task updates, and system alarms via Azure DevOps APIs.
- **Leadership and Teamwork**: Led a team of 3 to troubleshoot slowness issue, using Scrum and Agile in Jira with standup meetings for efficient teamwork. Upgraded to Bootstrap 5 and MVC, resulting in a 30% server response time improvement and ensuring a seamless user experience for up to 1000 concurrent users.

Software Engineer | Center for Healthy Minds Aug 2023 – Dec 2023
Python, AWS, RESTful, React, Node, Docker, iOS Madison, WI

- **Cloud Management**: Aggregated video data into structured AWS S3 buckets for optimized storage; Implemented Cloudflare with HLS, reducing buffering times by 41% for improved content delivery.
- **API Integration**: Created a React front-end for iOS, seamlessly integrated with RESTful APIs and tested using Postman; Orchestrated A/B tests with Firebase, boosting retention by 20% and feedback by 25%.
- **Machine Learning**: Applied Mediapipe and NumPy for video environment detection; Utilized OpenCV to analyze emotional expressions within video data using Python with Docker, improving accuracy by 22%.

Research Intern | UW-Madison Jan 2022 – May 2022
C++, Linux, Kubernetes, Docker Madison, WI

- **Operating Sytem**: Leveraged **multi-threading** for parallel processing of independent gene-related tasks and implemented **caching** strategies to store frequently accessed gene data locally, reducing analysis time by 37%.
- Deployed Docker containers onto a Kubernetes cluster for horizontal scaling, reducing downtime by 14%.

PROJECT

Enhanced Xv6 Kernel | C, Unix, GDB, QEMU Mar 2023

- Implemented stride scheduling with dynamic ticket allocation, boosting runtime performance by nearly 50%.
- Built Copy-on-Write forking and lazy zero-page allocation for xv6 with the support of GDB and QEMU, reduced average costs of memory allocation from 1000-10000s CPU cycles to 100s CPU cycles.

SKILLS

- Java, C/C++, C#, Python, Go, TypeScript, XML, GCP, MongoDB, Jenkins, Kotlin