TONGLU YANG

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EDUCATION

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

- **GPA:** 3.81/4.00 | **Awards:** Linda B. Stern Scholarship for Women and STEM, Dean's List
- **Related Courses:** Operating System, Cloud Computing, Database, Parallel Computing, Distributed System

WORK EXPERIENCE

UW-Madison, Wisconsin Athletics - Digital Platforms, Data, and Cloud Team Apr 2022 – Present
Full Stack Developer | ***C#, SQL, JavaScript, MVC*** Madison, WI

- Designed and implemented a home-grown questionnaire framework with **C#** and **.NET** framework, which allows user to send out more cutomized questionnaires with rich and diversed question types and input validations.
- Handled data for 21 question types in **SQL**; implemented user response data validation using **Regex** in backend.
- Onboarded **CI/CD** Pipelines using Azure, and integrated with Slack to provide real-time streaming notifications and monitoring on commits/task updates/system alarms by connecting to **Azure DevOps APIs**.
- Led a group of 2 engineers to investigate an application slowness issue, proposed and implemented the optimization solution by migrating to **Bootstrap 5** within an **MVC** framework, which reached a 30% improvement in server response time and ensured smooth user experience for up to 1000 concurrent users.

UW-Madison, Center for Healthy Minds Aug 2023 – Present
Software Engineer | ***Python, AWS, Swift, Ruby, Cloudfare, Firebase*** Madison, WI

- Developed a data and Machine Learning pipeline for emotion recognition via mobile tech to enhance well-being.
- Aggregated data into **AWS S3** buckets; utlized **ML** for audio/video data to implement model predictions.
- Upgraded iOS meditation app with advanced audio streaming, offline storage, and dynamic user engagement.
- Applied **Cloudflare** with HLS, **Ruby** on **Rails**, reduced buffering times by 71%; ensured offline access via Core Data; utilized **Firebase** for A/B tests, enhancing retention by 20% and feedback by 25% with **FCM**.

UW-Madison, Department of Computer Sciences Jan 2022 – May 2022
Software Engineer Intern | ***C++, Jenkins, Kubernetes, Docker*** Madison, WI

- Elevated the gene network project, yielding significant time savings, enhanced code quality, and cost reductions.
- Implemented **parallel computing** techniques, reducing analysis time by 30% for large-scale datasets.
- Leveraged **Kubernetes** for resource optimization and scaling, resulting in a 15% reduction in downtime.
- Set up **Jenkins** pipeline with Clang-Tidy and Valgrind integration, reducing defects and post-deployment issues.

PROJECT

Enhanced Xv6 Kernel | ***C, Linux, QEMU, GDB, Unix*** 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

- Programming & Development: Java, C/C++, C#, Python, R, Swift, PHP, Go, TypeScript, Node.js, Flask
- Web Technologies: React, JavaScript, HTML, CSS, Angular, Next.js, RESTFul
- Infrastructure & DevOps: MySQL, MongoDB, AWS, GCP, Azure, UNIX, Linux, Git, Jenkins, Docker