TONGLU YANG

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EDUCATION

University of Wisconsin-Madison Sep 2021 – Dec 2023
Bachelor of Science, Computer Science Madison, WI

- **GPA:** 3.81/4.00 | **Awards:** Linda B. Stern Scholarship for Women and STEM, Dean's List

Macau University of Science and Technology Sep 2019 – Jun 2021
Bachelor of Business Administration, Accounting Macau

SKILLS

- Programming Languages: Java, C/C++, C#, Python, R, SQL, Swift, PHP, Go, JavaScript, TypeScript
- Frontend Development: React, Node.js, JavaScript, HTML, CSS, AngularJS
- Backend Development: MySQL, MongoDB, Flask, SQLite, JSON

WORK EXPERIENCE

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

- Initiated and conducted a dynamic home-grown questionnaire framework with processing different data types corresponding to diverse question types, establishing default configurations, implementing user data input validation and custom auto-correction, and optimizing backend integration with updating data for polished frontend presentation with regex-based auto-correction to reduce company's cost of third-party applications.
- Developed and maintained a website through meticulous migration to Bootstrap 5 within an MVC framework, adeptly incorporating NPM packages, and meticulously optimizing page readability across diverse device resolutions, resulting in a notable 0.6s reduction in server response time.

UW-Madison, Department of Computer Sciences Jan 2022 – May 2022
WISCERS Research Fellow | ***Python, R*** Madison, WI

- Developed statistical machine learning methods to understand gene regulatory networks driving cellular functions

PROJECTS

Enhanced Xv6 Kernel | ***C, Linux, QEMU, GDB*** Mar 2023

- Created kernel threading library, Round-Robin and striding schedulers for xv6, a Unix-like operating system
- 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 in fork() from 1000-10000s CPU eyeles to 100s CPU cycles
- Implemented stride scheduling by assigning proportional tickets to individual processes and employing a dynamic selection strategy based on the minimal pass value, yielding a streamlined CPU allocation mechanism that significantly accelerated runtime performance nearly 50% through ticket allocation.

FunChat | ***Swift*** Jun 2023

- Implemented a dynamic chat functionality by leveraging Firebase Firestore as a robust backend database, facilitating seamless storage and retrieval of messages from the cloud.
- Integrated Machine Learning algorithms to empower users with the ability to forecast popularity trends for individuals by analyzing their latest posts, complemented by sentiment classification for comprehensive insights.
- Elevated user engagement by introducing a captivating interactive element – an ARKit-powered interactive newspaper – within the app, offering an immersive and entertaining experience for users to enjoy.