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

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, Swift, PHP, Go, TypeScript, JSON
- Frontend Techniques: React, Node.js, JavaScript, HTML, CSS, AngularJS
- Backend Techniques: MySQL, MongoDB, Flask, UNIX, Linux

WORK EXPERIENCE

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

- Developed a dynamic home-grown questionnaire framework to reduce cost of third-party apps; handled different data types for each question type; set up default configurations to reduce operational overhead; implemented user data input validation and auto-correction to improve user experience; drove the entire **end-to-end workflow solution** evolving both frontend and backend; took complete **ownership** of the development lifecycle.
- Revamped a website by migrating to Bootstrap 5 within an MVC framework to improve the system performance, be the active maintainer of this service inside the company, and constantly optimizing page readability across multiple device types, resulting in a notable 30% improvement in server response time.

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

- Conducted machine learning research to predict gene regulatory networks with graphical models such as Bayesian networks; carefully and successfully tested with the gene network system.
- Studied and recreated relevant research papers to enhance comprehension of machine learning methodologies.

PROJECTS

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

- Developed a kernel threading lib including striding scheduling algorithms in xv6, a Unix-like operating system.
- 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.
- 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 cycles to 100s CPU cycles.

FunChat | ***Swift*** Jun 2023

- Implemented a chat iOS APP; leveraged a cloud Firebase Firestore database to store and retrieve messages.
- Provided popularity tread forecasting for each user by running multiple ML algorithms on past posts.
- Increased user engagement by introducing an ARKit-powered interactive newspaper to offer an immersive and entertaining experience for users.

Feel free to check out my Personal Website! :)