

TONGLU YANG

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EDUCATION

University of Wisconsin-Madison

Bachelor of Science, Computer Science

Sep 2021 – Dec 2023

Madison, WI

- Academics: GPA 3.94/4.00, Fall 2021, Spring 2022, Fall 2022 in Dean's List
- Selected Coursework: Algorithm and Data Structure, Machine Learning, Operating System, AI, UI Design

Macau University of Science and Technology

Bachelor of Business Administration, Accounting

Sep 2019 – Jun 2021

Macau

SKILLS

- Programming Languages: Java, C/C++, C#, Python, R, .Net, SQL, Swift, PHP, Go, JavaScript, TypeScript
- Frontend Development: React, Node.js, JavaScript, HTML, CSS, Bootstrap, AngularJS
- Backend Development: MySQL, MongoDB, Flask, SQLite, JSON, MVC
- Tools and Platforms: Git, GitHub Actions, Azure (App Service, Functions), Linux, MS Visual Studio

WORK EXPERIENCE

UW-Madison, Wisconsin Athletics - Digital Platforms, Data, and Cloud Team

Full Stack Developer

Apr 2022 – Present

Madison, WI

- Developed and maintained a responsive [website](#) by updating it to Bootstrap 5 in the MVC framework using C# and JavaScript with NPM packages, resulting in improved server response time.
- Conducted data processing analysis (file decryption, metadata retrieval, and data insertion using SQL), and implemented a questionnaire feature in an ASP.NET to enable user input and access via controller and views.

UW-Madison, Department of Computer Sciences

WISCERS Research Fellow

Jan 2022 – May 2022

Madison, WI

- Conducted research on machine learning using R & Python to predict gene regulatory network with graphic models such as Bayesian networks; carefully and successfully tested with the gene network system.

PROJECTS

Xv6 Kernel: Copy-on-Write Forking and Stride Scheduler Implementation

Mar 2023

- Implemented copy-on-write (CoW) mechanism to improve xv6 fork() implementation, which reduced the time taken by the system call, and optimized memory usage by copying only when needed in C.
- Implemented a new scheduler algorithm called stride scheduling into xv6 kernel, by assigning tickets to processes and choosing the process with the minimum pass value to run next, resulting in a more efficient CPU allocation.

Scene Recognition with LeNet-5 and Customized CNN Models

Jan 2023

- Designed a LeNet-5 model in PyTorch with 6 stages for scene recognition, and trained a convolutional neural network with various configurations (batch size, learning rate, and training epochs) on the MiniPlaces dataset.

Hierarchical Clustering on Pokemon Stats

Nov 2022

- Applied hierarchical clustering algorithm in Python (NumPy) to group Pokemon data into clusters, achieving a complete linkage on a 6d feature for improved organization and easier visualization (matplotlib).

AI Teeko Player

Sep 2022

- Developed an AI game player for Teeko in Python, utilizing a minimax algorithm with a depth cutoff and a heuristic scoring function for non-terminal states, and generated and evaluated successors based on game value.