

TINGJUN LIU

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EDUCATION

Washington University in St. Louis
Bachelor of Science in Computer Science
Capital Normal University High School
Graduated with High Honors

August 2022 to present
GPA 4.0/4.0
September 2019 to May 2022

TECHNICAL SKILLS

- Strong foundation in data structures, algorithms, operating systems, software engineering, design patterns, and computer networks.
- Proficient in machine learning techniques and libraries such as TensorFlow or PyTorch, with experience in developing and deploying models for classification, regression, or clustering tasks.
- Proficient in C/C++/Java programming language, demonstrating a deep understanding of algorithms and data structures. Be able to use algorithms of parallel programming.
- Familiarity with programming tools and technologies like Git, Visual Studio, and Linux.
- Proficient in web development technologies such as HTML, CSS, JavaScript, and frameworks like React or Express, with experience developing front-end and back-end applications using tools such as Node.js and database MySQL/MongoDB.

PERSONAL PROJECT EXPERIENCE:

1. **Project name:** Gomoku Battle Program and AI (July 2021 - September 2021)

Project description:

This is a Gomoku battle program and artificial intelligence (AI) developed using C++. Users can choose to play against each other or the AI in the program. The AI optimizes the Expectimax algorithm to improve calculation efficiency and space occupation. The program implements a simple and easy-to-use interface, making it easy for users to play Gomoku using the program.

Personal responsibilities:

- Implement the basic logic and interface of the Gomoku game.
- Use C++ to write AI algorithms and optimize them using the Expectimax algorithm.
- Debug and test the program to ensure its stability and functionality.

2. **Project name:** Team Event Management System Similar to Google Calendar (March 2023 - April 2023)

Project description:

This team event management system is based on PHP, JavaScript, HTML, and AJAX technology, similar to Google Calendar. Users can add their events and join teams to view team events. The system implements basic calendar views, supports various time dimensions such as day, week, and month, and has event categorization, reminders, and sharing functions.

Personal responsibilities:

- Independently develop the team event management system.

- Use PHP, JavaScript, HTML, and AJAX technology to implement the basic functions of the system.
- Implement the core logic of event management, including adding, deleting, and modifying events.
- Debug and test the system to ensure its stability and functionality.

3. Project name: Team Expense Manager (June 2022 - August 2022)

Project description:

Developed a team expense manager web application using React for the front end and Node.js Express for the back end. The application supports money transfers between team members, automatic splitting of expenses such as food and transportation, and team bill management. The user interface is intuitive and easy to use, allowing for efficient tracking and management of team expenses.

Personal responsibilities:

- Developed the front end using React, ensuring a responsive and user-friendly design.
- Implemented the backend using Node.js Express, including expense management and database connectivity APIs.
- Designed and implemented the MongoDB database schema to efficiently store and retrieve expense data.
- Collaborated with team members to ensure project requirements were met and delivered on time.

WORKING EXPERIENCE:

1. Computer science educator (2019 - present)

Work experience:

I initiated a computer support teaching project at Guilin Experimental Middle School Affiliated with Capital Normal University, where I taught over 100 students and gave over 200+ lectures. I am committed to teaching computer programming, algorithms, and data structures, inspiring students' interest, and helping them achieve excellent results in related competitions. Later, I taught information competition classes to help students learn competition algorithms and prepare for major international information technology competitions.

2. University Entrepreneurial Team: Cuisine Hub (February 2023 - Present)

Work experience:

Developed recipe analysis software based on artificial intelligence, which provides users with recipes that suit their tastes. The platform allows users to interact, share recipes, comment, and collect. I was mainly responsible for designing the back-end database structure, participating in product design planning, determining requirements and functions, and writing front-end pages using HTML.

HONORS AND AWARDS

- Distinction Rank (Top 5%) in 2021 AMC 12A 2021
- 1st Place in Gold Division (out of 723 participants) of the USACO Contest 2020
- Top 2% of 148,880 students, National Olympiad in Informatics in Province (NOIP)2019