

Zhuoqun Song

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Education

University at Buffalo, Buffalo, NY

Expected Graduation Fall 2024

B.S. Computer Science, GPA 3.97

Java, C, Python, Scala, JavaScript, HTML, CSS

OOP, DSA, Systems Programming, Discrete Mathematics

Work Experiences

Head Teaching Assistant

Spring 2023 to Present

University at Buffalo

Buffalo, NY

- Managed a diverse team of 34 TAs, effectively oversaw and facilitated productive operations and high levels of student engagement
- Supervised the grading process as the Lead Grading Teaching Assistant, ensuring accuracy, consistency, and timely feedback
- Collaborated with course instructors to address any grading-related concerns, clarify expectations, and resolve grading discrepancies
- Lead lab sessions, held office hours and provided support to students on key topics of Object Oriented Programming
- Offered clear and concise explanations of debugging steps, increasing students' understanding of the root causes of their problems
- Contributed with other TAs to the refinement of grading procedures, enhancing the quality and fairness of evaluating students
- Yielded in a 23% increase in student's average grades compared to the cohort's performance through effective teaching strategies in lab

Research Assistant

Fall 2020 to Summer 2021

Purdue University

West Lafayette, IN

- Researched on the usability and user experience of VR systems in immersive simulations of interpersonal relationships
- Collaborated with researchers and developers to understand project requirements and translate them into effective UX designs
- Analyzed user behavioral data to identify valuable patterns regarding user engagement and responses within the VR simulations
- Contributed to the development and maintenance of research databases, ensuring accurate and organized storage of research data
- Validated and analyzed incoming data to check information accuracy and integrity while independently addressed concerns

Projects

Dynamic Memory Allocator

- Developed a highly efficient dynamic memory allocator to supplant the standard heap memory functions in a Unix process
- Optimized memory management by implementing custom replacements for the standard malloc(), calloc(), realloc(), and free()
- Resulted in notable improvements in memory allocation performance, leading to enhancements in overall system efficiency
- Conducted rigorous and meticulous testing and debugging, ensuring every aspect was thoroughly examined
- Guaranteed its stability and compatibility, resulting in a functioning system that even supports demanding applications like Vim

Zhuoquns.com Personal Website

- Designed and developed a responsive website using HTML5, CSS3, and JavaScript and Git for version control
- Utilized media queries and flexible grid systems to ensure a seamless UI with a responsive design that adapts to different screen sizes
- Gathered and organized project details, case studies, and personal achievements to effectively showcase skills and experiences
- Employed advanced search engine optimization techniques by strategically incorporating pertinent keywords and metadata
- Conducted thorough testing across multiple browsers and devices to ensure cross-browser compatibility and smooth functionality
- Resolved any discrepancies or inconsistencies in the website's appearance and functionality, ensuring a seamless UI

OpenRocket Avionics Plugin

- Developed a Java plugin for the OpenRocket simulator, enabling users to seamlessly import and analyze personal avionics data
- Collaborated with software users to gather requirements and understand their needs, ensuring the plugin met their specific demands
- Conducted performance optimizations to improve the speed and efficiency of the plugin, enhancing the overall user experience
- Actively contributed to the development and improvement of the OpenRocket software itself, suggesting enhancements and providing valuable insights based on the experiences gained while developing the plugin