Benjamin Wasden

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EDUCATION

The University of Texas at Austin, Austin, TX   May 2025
Bachelor of Science, Computer Science; Minor in Business   GPA *4.0*
- Relevant Coursework: *Software Engineering, Principles of Computer Systems, Computer Organization and Architecture, Principles of Machine Learning, Computer Graphics, Algorithms and Complexity.*
- Honors: *Distinguished College Scholar*

SKILLS

Technical/Computer Skills: Advanced Java and Python, Intermediate C, Beginner JavaScript and SQL, Microsoft Suite

PROJECTS

Lateral Flow Assay Analysis Software   May 2023 - August 2023
- Engineered a unique software solution in Python, complemented by an intuitive graphical user interface, to automate the image analysis process for Lateral Flow Assays.
- Improved the efficiency of the analysis process by using signal area to identify positive or negative tests, thus significantly reducing the time spent on manual interpretation.
- Utilized image processing techniques to detect and analyze multiple assays within an image, facilitating quicker and more effective diagnostic procedures.

Chess Practice Tool and Visualizer   July 2023
- Created a chess game using Python and object-oriented programming principles, complete with an AI opponent to play against whose moves are visualized to show the user potential moves the AI considers.
- Implemented the AI using alpha beta pruning and a minimax approach to choose the best move for any given position on the chessboard.

Pintos   January 2023 - May 2023
- Collaborated with a team of 4 to expand a toy operating system, making it more suitable for higher-level applications and more intricate task management, utilizing the C programming language.
- Implemented priority scheduling, the ability to pass arguments to user programs via the stack, system calls to allow user programs to interact with the operating system, a virtual memory system, and converted the existing single-thread file system into a multi-level indexed one.

RESEARCH AND TEACHING EXPERIENCE

University of Texas at Austin, Austin, TX   August 2022 – Present
CS 311 (Discrete Math) Teaching Assistant
- Lead two weekly discussion sessions of 30 students where students are coached through review problems.
- Hold office hours twice a week where any of the 300 students enrolled in the class may ask for help with understanding current and past material.

Willson Lab, Houston, TX   May 2023 – August 2023
Undergraduate Research Assistant
- Designed a program to automate image analysis of lateral flow assays, significantly reducing manual interpretation time and improving diagnostic efficiency.
- Executed front-end development to transition the lab's website to production-ready state, enhancing the lab's online presence and facilitating more efficient information dissemination about their research.

Code Ninjas Tanglewood, Houston, TX   May 2022 – August 2022
Senior Code Sensei
- Educated groups of around 20 students on fundamentals of Python, Java, and object-oriented programming.
- Designed curriculums which aimed to educate beginner coders the basics of computer science through coding a game and through Minecraft Education Edition.

LEADERSHIP & COMMUNITY INVOLVEMENT

Texas Association of Computing Machinery, Austin, TX   August 2021 – Present
Member
- Work to promote community engagement among Computer Science students and technology enthusiasts.