

Hongkun Zeng

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EDUCATION

University of Illinois at Urbana Champaign | Bachelor of Science in Computer Engineering May 2024

- GPA: 3.88/4.00
- ECE Departmental Scholarship recipient 2022-2023, 2023-2024
- Relevant Courses: Data Structures, Computer Systems Engineering, Intro to Algorithms & Models of Comp, Probability with Engineering Applications, Digital Systems Laboratory, Discrete Structures
- Current Courses: Database Systems, Artificial Intelligence, Computer Organization & Design

TECHNICAL SKILLS

- Languages: C++, C, Python, System Verilog, Go, Java, x86 Assembly
- Tools: Git, Linux, Jira

EXPERIENCE

IBM Internship (Go) May 2023 – Aug. 2023

Back-End Developer TE: 2023 Austin, Texas

- Apply smart cache to OS hypervisors retrieval, design threshold checks and post-processing for creating/updating the virtual machine to avoid cache misses
- Apply smart cache to PVM instances retrieval
- Implement generic functions for smart cache and data bus to improve the codebase for future products

ECE 391(Computer Systems Engineering) Course Assistant (C, x86 Assembly) Jan. 2023 – present

ECE Undergraduate Course Assistant Champaign, IL

- Hosted office hours to answer students' questions and debug students' machine problem code
- Demoed students' machine problems, graded students' assignments, and exams

IBM Accelerate Program (HTML, CSS, JavaScript) Jun. 2022 – Aug. 2022

IBM Accelerate Program Participant Remote

- Participated in an 8-week professional development program with 2 weekly sessions focused on foundational business acumen and software industry skills
- Developed frontend and backend skills during weekly software sessions with IBM professionals

DPI Research Scholars- AI-Aided Co-Creation Platform (Python) Jan. 2022 – May. 2022

Research Project Team Member Champaign, IL

- Applied FFT (Fast Fourier Transform) to implement an algorithm that compared and sorted power spectral densities of 200 audio files
- Computed similarity between different audio files by applying human judgment and PSD computational algorithm to music samples

SPECIAL PROJECTS

Linux-like Operating System Design (C, x86 Assembly, Linux) Oct. 2022 – Dec. 2022

- Set up Interrupt Descriptor Table (IDT), implemented exception and interrupt handlers
- Constructed basic paging support for tasks, separated 4 MB pages for the kernel and user
- Wrote the system call interface along with ten system calls
- Provided support for six tasks from program images in the file system which interface with the kernel via system calls, multiple terminals, and basic scheduling

YouTube Video Dataset Analysis (C++, Graph) Mar. 2022 – May 2022

- Developed a data read in/out algorithm for YouTube datasets of 50,000 videos
- Implemented a graph class and stored data in an adjacency list
- Performed data analysis using BFS Traversal to find the shortest path from a source video a to a targeted video b

LEADERSHIP EXPERIENCE AND EXTRACURRICULARS

Society of Women Engineers Illinois (SWE Illinois), Community Chair Sep. 2022 – May 2022

- Organized one-time unique events that foster STEM interest in women and underrepresented genders
- Scheduled monthly community volunteer events to improve gender equality and inclusion in engineering