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Jack W. Davis

Student in Atlanta, GA

Education

Georgia Institute of Technology – Atlanta, GA   August 2021 – December 2025
  Bachelor of Science in Computer Science
  Concentration: Info/Internetworks & System Architecture

Projects

XV6 OS Modules | August 2024 – Present
- Implemented many critical operating system features for the XV6 operating system. These modules include virtual memory/paging, dynamically detecting the amount of physical memory, scheduling, threading, and a file system.

Superscalar Pipeline | August 2024 – Present
- Implemented data dependency detection, data forwarding, and always taken branch prediction in a trace drive superscalar pipeline. In the second part, implemented out of order issue, schedule and commit pipeline stages as well as data structures like the Reorder Buffer and Register Alias Table

Information Security Attacks | August 2024 – Present
- Implemented buffer overflow attacks to overwrite an applications stack to alter the control flow. Implemented cryptographic attacks like length extension on SHA-256 and Bleichenbacher on RSA.

Ævintýri | August 2023 – December 2023
- An old school multiuser dungeon or MUD game. Users connect with Telnet and are faced with a series of challenges and encounters in a text-adventure style. Written in the new Hare language.

Portfolio Website | May 2024 – December 2024
- Created a personal website to document my projects and important milestones. I built it with JavaScript using the React framework.

SpotSwap | January 2024 – May 2024
- Developed with the Georgia Tech IOS Club. Spot Swap is an app aimed to streamline the subleasing process for both leasers and renters. Built for IOS in Swift.

Work Experience

Endive Fine Catering | December 2020 – Present
  Server
  - Responsible for the facilitation and execution of over 1000 Weddings with upwards of 600 guests
  - Trained new server staff, sharing knowledge of menu offerings, customer service skills, and operating procedures   to support their success in the role
  - Consistently upheld high standards for sanitation, food presentation, and customer service, resulting in repeat business and positive online reviews
  - Demonstrated strong teamwork skills, supporting team members during peak service periods, collaborating on special events and promotions, and contributing to a positive and supportive work environment.

Skills

Languages – C/C++, Python, Java, Swift, MATLAB, x86 Assembly, JS/React
Technologies – MySQL, CSS, HTML, Docker, Git/GitHub, TCP/IP Sockets, HTTP, Linux, GDB
Concepts – Operating Systems, Computer Organization and Architecture, Object Oriented Programming, Data Structures and Algorithms, Databases, Computer Networking, Cyber/Information Security