

Jason Liu



Education

University of Illinois Urbana-Champaign

Aug 2018 - May 2022

B.S., Computer Engineering

James Scholar Honor Program

Projects

FriarTuck: Stock Trading Platform

Aug 2021 - December 2021

- Implemented full-stack stock trading app managing 5,000 public equities, including a balanced portfolios management and social component.
- Responsible for data transformation pipeline from API to database, including schema design
- Technologies: Django, MySQL, Bootstrap, Google Cloud Platform

Cyber Warrior: Unity Engine 3rd-person 3D Game

Jan 2022 - May 2022

- Demo Video: <https://youtu.be/YVD3ncCDq-M>
- Leveraged Unity platform, C#, and Blender to develop immersive 3D gameplay, complete with prefabs, textures, and accompanying documentation.
- Implemented inventory system, UI, AI enemies, articulated animation, melee/range attack, bullet/hitbox calculation, level designs, and demonstration.

Five-stage Pipelined RISC-V Processor with Cache

Aug 2021 - Jan 2022

- Built pipelined CPU with system cache, branch prediction, decode/execute stages, and pipelined/victim caches
- Achieved an efficient cache with sub-2% data-cache miss, 0.05% misses in instruction-cache and a branch predictor with 77% accuracy
- Technologies: SystemVerilog, Quartus, and Modelsim

x86 Pseudo-Linux Operating System

Jan 2021 - May 2021

- Architected I/O file system, interrupts/system call handlers, terminal console, and memory mapping
- Implemented IDT, system call execute/halt, task scheduling, and input buffer/mouse support
- Technologies: x86 Assembly, C

Courses & Skills

Courses

Data Structure, Data Mining, Database System, AI/ML, Computer Architecture, Game Design, Analog/DSP, Algorithms, Computer Security, Distributed Systems

Languages

Python, Java, C, C++, C#, JavaScript, SystemVerilog

Technologies

Django, MySQL, Git, Quartus, Visual Studio, Unity, React.js, GCP