Vy Nguyen

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EDUCATION

University of California, Berkeley   **GPA (Major): 3.45/4.0**
B.A. Computer Science   May 2025
Relevant Coursework: Data Structures · Algorithms · Computer Architecture · Operating Systems · Digital Logic Design
· Networking · Security · Full Stack · PL & Compilers · Databases · Computability & Complexity Theory

EXPERIENCE

The Coder School   **Berkeley, CA**
Coding Instructor   *Aug 2024 - Jan 2025*
  • Led and co-taught as an instructor for coding classes of 20+ elementary school students at local community centers.
  • Tutored middle and high school students in 1-on-1 sessions by designing tailored, project-based lesson plans.
  • Communicated effectively with guardians on a weekly basis and handmade homework assignments that reviewed core ideas.

Computer Science Course Staff - *CS 10 (Beauty and Joy of Computing)*   **Berkeley, CA**
Academic Intern   *Jan 2021 - May 2021*
  • Aided teaching staff in weekly labs with 30+ university-level computer science students by debugging and grading projects.
  • Reinforced fundamental concepts such as mutable data structures, recursion, and object oriented programming.

PROJECTS

3-Stage Pipelined RISC-V CPU | Verilog, RISC-V, GTKWave
  • Implemented a 3-stage pipelined RISC-V CPU onto an FPGA, capable of supporting the RV-32I Base Instruction set.
  • Accounted for read-after-write data and control hazards by bypassing values evaluated in different pipeline stages.
  • Debugged extensively by analyzing waveforms and writing comprehensive SystemVerilog testbenches to verify correctness.

GemQuest | Figma, React Native
  • Designed and prototyped a high-fidelity, mobile, social networking app to assist gender minorities with finding communities.
  • Refactored code based on 2 real-world clients' feedback, increasing the assessment rating of our app by 20%.
  • Implemented gamification elements, a reservation system, and parts of a secure user authentication service using Firebase.

PintOS | C, x86
  • Worked in a team of 4 to implement file system calls for user-space programs in a Unix-based operating system.
  • Created a file descriptor table to track the status of files and tokenized user inputs for path traversals.
  • Ensured synchronization of file data by using locks and semaphores in the midst of multithreaded processes.

End-to-End Encrypted File Sharing System | Go
  • Constructed a secure file sharing system using RSA public-key encryption, digital signatures, and HMACs.
  • Devised a constant-scaling bandwidth scheme when there are appendages to files shared between multiple users.
  • Maintained security and confidentiality by utilizing a tree-based data structure of users to revoke access to shared files.

Dinner in the Closet | Unity, C#
  • Added physics to various background elements such as moving non-playable characters and static objects.
  • Created a persistent save system for local users that tracks the state of the game and resumes on the next playthrough.
  • Incorporated a health system and created randomly moving NPCs that were interactable.

Gitlet | Java
  • Implemented a version control system emulating Git, including features like branch switching, merges, and commit resets.

EXTRACURRICULARS

Team Member - California Informatics Competition (CALICO)   **Berkeley, CA**
Frontend Developer   *Sep 2025 - Present*
  • Designed, implemented, and maintained a website for a competitive programming organization on campus.

SKILLS

Languages/Frameworks: C · Java · Python (proficient) Verilog · x86/RISC-V Assembly · HTML/CSS (intermediate)
Tools: Git · Unix · Linux · gdb · JUnit · Figma · MongoDB · Firebase · Postman · Bootstrap · NumPy · GTKWave · Unity
Other: Vietnamese (conversational) · Spanish (conversational)