CALVIN PHAM

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EDUCATION

University of California, Berkeley **May 2022**
Bachelor of Arts in Computer Science
GPA: 3.51

TECHNICAL SKILLS

Programming Languages: Python, Java, C, C++, Golang, HTML/CSS, JavaScript, SQL, NoSQL, RISC-V
Systems Knowledge: x86, Linux, RISC, MIPS, OpenMP
Tools & Frameworks: Git, GDB, Gurobi, Mockito, JUnit, Google Cloud Platform
Dev Ops & CICD: make, Docker
Applications: SQLite, MongoDB

PROJECTS

Cryptographic File Sharing System | Golang
- Designed and developed a multi-user, concurrency supported, secure file sharing system.
- Supports confidentiality, integrity, and authenticity of user accounts and files through public key encryption, HMAC, AES-CTR block chaining, SHA-512 hashing, and symmetric & asymmetric encryption.

Pintos Operating System | C
- Co-designed and co-implemented enhancements to Pintos OS, for user program execution, syscalls, thread priority scheduling, and file systems.
- Designed and implemented a concurrency supported LRU buffer cache for faster reads and writes for an indexed inode-based file system.

Gitlet | Java
- Designed and developed a fully functioning file version control system that mimics the features of Git.
- Supports most git features including committing, branching, and file merging.

Go Motivation | HTML/CSS, JavaScript
- Leadership role in the team development of a full stack web application that helps motivate users to accomplish their long term fitness goals through a calendar and achievement system.
- Utilized the full user interface design development process in order to cater towards a specific focus group.

Realistic Water Physics Simulator | C++, Blender
- Co-designed and co-developed a realistic 3D water simulator, with water physics derived from fluid dynamics research papers.
- Utilized multi-threading and hashing for particle physics calculations and polygon mesh graphics generations.

EXPERIENCE

Pioneers in Engineering Club **September 2019 - December 2019**
- Maintained C API code responsible for RC car functionality as a member of DevOps.
- Helped host competitions where high school students race code controlled RC cars through obstacle courses.

RELEVANT COURSEWORK

- Artificial Intelligence
- Computer Programs
- Computer Graphics & Imaging (IP)
- Computer Security
- Data Structures
- Database Systems
- Discrete Mathematics & Probability Theory
- Designing Information Devices & Systems I & II
- Efficient Algorithms & Intractable Problems
- The Foundations of Data Science
- Operating Systems & Systems Programming
- Machine Structures
- Principles & Techniques of Data Science
- User Interface Design & Development