

CALVIN PHAM

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Portfolio Website

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 account data and files through public key encryption, HMAC, AES-CTR block chaining, SHA-512 hashing, and symmetric encryption.

Pintos Operating System | C

- Co-designed and co-implemented enhancements to an operating system, for user program execution, syscalls, thread management, and file systems.
- Created a concurrency supported LRU buffer cache for an Inode based file system, and a priority donation algorithm for thread synchronization functionality.

Gitlet | Java

- Devised and built a fully functioning file version control system that mimics the key features of Git.
- Utilized object oriented programming and serialization in order to support the functionality of these features.

RookieDB | Java

- Designed and developed various functions for a bare bones database implementation.
- Implemented B+ tree indices, efficient join algorithms, query optimization, multi-granularity locking to allow concurrent execution of transactions, and database recovery through logging.

EXPERIENCE

Freelance Private Computer Science Tutor

August 2022 - Present

- Planned individualized lessons that address students needs, increasing aptitude and understanding.
- Mentored students on problem solving strategies, and assisted in analyzing and debugging student code.

Pioneers in Engineering Club

September 2019 - December 2019

- Maintained C API code responsible for RC car functionality and communication.
- Supervised in competitions where high school students operate code controlled RC cars to achieve objectives.

RELEVANT COURSEWORK

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