Gaohong Liu

206.954.6826 | cheimu@ucla.edu | http://github.com/cheimu

EDUCATION

- **University of California, Los Angeles** Expected Graduation Date: *June 2021*
  Master of Science in Computer Science
- **University of Washington, Seattle** *September 2015 - June 2019*
  Bachelor of Science in Electrical Engineering
  Bachelor of Science in Physics

EMPLOYMENT

Software Engineer Research Internship *Sensor Systems Lab at University of Washington*
Summer – Winter 2018 Seattle, WA

- Wrote code to update Battery-Free Phone to adapt new IDE and compiler, including manually modified the ARM assembly code of firmware to make Battery-Free Phone accept phone call from USRP and stay awake when standby.
- Established reliable communication between the cellphone and the USRP; Built signal source model in GNU Radio.
- Fixed two bugs in firmware about communication and found one design problem on PCB Board.

RELEVANT EXPERIENCE

Sharded Key/Value Store Service (JAVA) Spring 2019

- Implemented Multi-decree Paxos, a consensus algorithm including leader election and data backup. Fixed data unrecoverable issue instead of using primary/backup architecture.
- Implemented a Sharded fault-tolerant key/value storage system which supports cross-group transactions using two-phase commit.

JOS (Operating System) (C) Autumn 2018

- Successfully implemented JOS, an operating system which has Unix-likes functions but implemented in an exokernel style including Virtual Memory, User Environment, Preemptive Multitasking, File System and Shell.
- Now working on transplant and simulate JOS on Ariane, a RISC-V CPU.

Firewall and HTTP Proxy (Python) Winter 2018

- Implemented a software-defined networking firewall which allowed ICMP packets using Pox controller in Mininet.
- Implement an HTTP proxy that passes requests and data between multiple web clients and web servers, concurrently. The HTTP proxy is capable of both relaying HTTP requests and HTTP CONNECT tunneling.

Web-Search Engine (JAVA) Summer 2018

- Implemented TF-IDF ranking, an algorithm for computing how relevant a query is to a document.
- Implemented PageRank, an algorithm for assessing the quality of a webpage based on the number of inbound links using graph and graph-related algorithm.
- Successfully assembled all ranking features and implemented web-search engine.
- Fix security issue such as Cross-Site Scripting flaw and Directory Traversal Attack.

SKILLS

Emphasis: Distributed System, Operating System, Networking Systems, and Computer Architecture.

Programming Language: C/C++, Java, SystemVerilog, Python

Tool: GIT, Docker, Apache Hadoop Stack.

Platform & IDE: Unix/ Linux, MySQL, IntelliJ, Eclipse, PyCharm