

Ling-Hsin Kung

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[GitHub](#) | [LinkedIn](#)

WORK EXPERIENCE

Software Engineer Intern | Rubrik, Inc.

May – Aug 2022, Palo Alto, CA

- Designed and implemented in C++ a two-level caching mechanism on a distributed system to improve read performance from cloud databases
- Crafted end-to-end testing scripts in Python and analyzed the interaction between AWS EC2, EB2, S3 and Azure Blob Storage during a restore operation
- Offered actionable suggestions on improving thread pool design and read-ahead logic

Graduate Teaching Assistant | University of Pennsylvania

Jan 2022 – present, Philadelphia, PA

- TA for Introduction to Software Development
- TA for Discrete Mathematics
- TA for Distributed Systems

SKILLS

- Very familiar: C++, C, Java, POSIX, Linux, Bash, Git, GTest, SQL, OpenGL, network API
- Prior exposure: AWS & Azure, Docker, Python, Django, JavaScript

SELECTED PERSONAL PROJECTS

PennCloud | C++

Dec 2022

- Co-created a distributed email and storage system
- Constructed backend from scratch: a distributed BigTable database complete with API for RPC
- Designed the system to be consistent, scalable, and fault tolerant

C-WebServer | C++

Jan 2023

- Created a multithreaded static HTTP web server from scratch with plain C++
- Designed a thread pool based on POSIX thread API
- Optimized the system to be fast, scalable, RAII compliant, and deployable to AWS EC2

ChatServer | C++

Nov 2022

- Created a chat server that manages multiple chatrooms with login credentials
- Implemented FIFO, causal, and total ordering of messages

Mini-Spark | Java

Jan 2023

- Created from scratch a fully functional web dev framework that mimics Spark
- Designed efficient ways to parse HTTP requests and manage multithreaded connections

SMTP & POP3 Email Server | C++

Oct 2022

- Designed and created a multithreaded email server by implementing SMTP and POP3
- Optimized concurrency control and mutual exclusion
- Perform efficient file I/O with precision to the byte level

Huffman File Compressor | Java

Feb 2022

- Created a Java program that compresses and decompresses txt files using the Huffman Tree
- Demonstrates deep understanding of data structures such as tree, stack, queue, heap

EDUCATION

University of Pennsylvania | Philadelphia, PA

Graduating May 2023

Master of Computer and Information Technology

GPA 3.88

Key coursework: Internet & Web Systems, Distributed Systems, Database and Information Systems, Interactive Computer Graphics