

Wenkai Zheng

☎ (+1)801-300-9004 | ✉ wenkai.zheng@emory.edu | 📷 wenkaizheng | 🌐 wenkai-zheng

Education

Emory University

Atlanta, GA

M.S. in Computer Science

May 2022

- Courses: Advanced Algorithm, Graph Mining, Advanced System Programming, Data Mining, Database System, Advanced Computer System, Compiler System

University of Arizona

Tucson, AZ

B.S. in Computer Science

May 2020

- Courses: Computer Organization, System Programming and Unix, Operating System, Computer Network
- Honor: Dean List Academic Year Distinction

Technical Skills

Web Development

MySQL, MongoDB, PostgreSQL, Html, JavaScript

Software Engineering

System Programming, Network Programming, Object Oriented Programming

Programming Languages

C, C++, Python, Java, Go, Assembly, (Linux) Shell

Work Experience

Software Engineering Intern in StudyFind

Remote

Worked in Back-end group for web development

May. 2021 - Aug. 2021

- Developed confirmation feature for sending email and text message to user when they create a study.
- Developed notification feature for adding events to user's google calendar when they create a meeting.

System Engineering Intern in Orca Data Technology

Remote

Worked in Back-end group for a image search project

Dec. 2020 - Jan. 2021

- Developed server and client side in WebSocket protocol including send and receive feature vectors of image file and image file itself correctly.
- Developed server side database to store user operation record, and also mapped the id from faiss framework with user's image file for managing searching result.

Research Assistant in Computer Network Lab

Tucson, AZ

Worked on NDN project (Named Data Network), and supervised by Prof. Beichuan Zhang

Aug. 2019 - Aug. 2020

- Developed command line tool for network characteristic analysis based on NDN, including processing data from servers such as round-trip-time, jitter, segments and performing data visualization through Python GNU plot.
- Developed a script by Google Drive API for monitoring and recording insertion, update, deletion of files from cloud, and if any changes are detected, the script will start to download, encode, package and chunk files into NDN file server based on MongoDB.

Teaching Assistant for System Programming and Unix

Tucson, AZ

Worked with Dr. Eric Anson

Jan. 2019 - May 2019

- Graded the programmings assignments, exams and quizzes.
- Held weekly office hours to assist students solving class-related problems.

Projects

Mini Version of ShadowSocks

- Implemented time randomized encryption to decode and encode the network packets amongst network firewall.
- Verified and responded to network packets based on Socks5 protocol.
- Created and managed Goroutines for each user and handled requests (HTTPS/HTTP) simultaneously.

Telnet Proxy

- Implemented heartbeat mechanism to check the connection between two ends.
- Enabled reliable transmission by saving packets which do not get expected ACK into local linkedlist when losing connection with server proxy, and resending those packets when the connection is reestablished.

IP Router

- Constructed the Ethernet packet including the IP packet and the ARP packet.
- Simulated BoardCast, UniCast and Arp caching processes to correctly send and receive packets.

Operating System simulator

- Implemented process management with context switch.
- Implemented P and V operation for Semaphore.
- Implemented disk driver read/write from the tracker and sector in disk.
- Implemented paging memory management and swap space (LRU).