Wenkai Zheng

☐ (+1)801-300-9004 | ✉ wenkai.zheng@emory.edu | ⬛ wenkaizheng | in wenkai-zheng

Education

Emory University   *Atlanta, GA*
M.S. in Computer Science   *May 2022*
- Courses: Advanced Algorithm, Graph Mining, Advanced System Programming

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, Html, JavaScript
Software Engineering	System Programming, Network Programming, Object Oriented Programming
Programming Languages	C, C++, Python, Java, Go, Assembly, (Linux) Shell

Work Experience

System Engineering Intern in Orca Data Technology   *Remote*
Worked in Back-End group   *Dec. 2020 - Jan. 2021*
- Developed a memory pool to allocate data buffer for optimizing efficiency.
- Developed server and client side in WebSocket protocol including send and receive image binary data correctly.
- Developed server side database to store user operation record.

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 quizs.
- Held weekly office hours to assist students solving class-related problems.

Projects

Reversi Game
- Constructed MVC model and observer pattern to develop a Reversi Game.
- Achieved user-user and user-AI competition and applied the current maximal strategy for AI to follow.
- Established the TCP connection for two players which allow them to play as server and client.

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.

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 sessions for each user and handled requests (HTTPS/HTTP) from all users simultaneously by Goroutines.