

YUNZE ZHANG

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EDUCATION BACKGROUND

Duke University

Durham, US

Master of Engineering in Electrical and Computer Engineering (Software Track)

Aug. 2022 – Jun. 2024(*expected*)

GPA: 4.0/4.0

Courses: Programming, Data Structures and Algorithms in C++; Fundamentals of Computer Systems and Engineering; Software Engineering; Systems Programming and Engineering

Dalian University of Technology

Dalian, China

Bachelor of Science in Applied Chemistry (Elites)

Sep. 2018 – May 2022

GPA: 3.85/4.0

Ranking: 1/61

Courses: University Computer (95), Programming Basis B (97), Higher Mathematics A1 (92), Higher Mathematics A2 (90), Probability and Statistics A (96), Linear Algebra and Analytic Geometry (93)

RELEVANT EXPERIENCE

Hot Potato (C/C++, Socket)

2023.3

- Designed and implemented a multi-process hot potato game based on **TCP** connection using **C/C++** where players randomly pass the potato to the left or right
- Added a timer function at the host end to randomly end the game and output the potato path.
- Used **select** function to manage multiple socket file descriptors, and implemented ring network structure and message passing mechanism

Battleship Game (Java, Gradle)

2023.2

- This text version of the board game was designed using **Java** language and built through **Gradle**, supporting everyone and man-machine battle
- Followed the Single Responsibility Principle and Interface Segregation Principle, two Interfaces and 20 Classes were used for design
- Followed the principle of test-driven development, and achieved branch tests with 100% coverage
- Used **Git** to manage code modification, submission, and host the code on **Gitlab**

Thread-safe memory allocator (C, thread-safe)

2023.1 - 2023.2

- Used **Best-Fit** and **First-Fit** allocation strategies, implemented malloc and free functions, and conducted performance evaluation based on memory usage and allocation time
- Used NoLock (Thread Local Storage) and Lock (pthread mutex) to implement the memory allocation function of the Best-Fit strategy, and through the code test, it is guaranteed to be thread-safe.
- Used Valgrind to check memory leaks and GDB to debug.

Tetris Game (Verilog, Assembly Language)

2022.9 – 2022.12

- Wrote a processor with a clock frequency of 10MHz and support 16 instructions in **Verilog**
- Used **assembly language** to write the program of the game, and design seven functions such as rotation, pause, elimination, and random shape of the square
- Converted the game program into binary code and input it into ROM
- Output the picture of 640*480 pixels to the display through the VGA interface, and used the PS2 keyboard to control the block
- Designed the UI of the game on the monitor

ADDITIONAL SKILLS

Programming Languages: C/C++ (Skilled), Verilog, Java, Python

Skills: Valgrind, GDB, Linux Environment, Git, Junit,

Language: English (skilled, Duolingo: 120), Chinese (mother language)

Scholarships and honorary titles:

Received Learning Excellence Award (First Prize: 2019, 2020 Second Prize: 2021), etc. Awarded the titles of Outstanding Merit Student of School (2021), and Outstanding Graduates of Dalian (2021), etc.

Competition and Awards:

National Undergraduate Mathematics Contest(National Second Prize, National Third Prize), etc.