Yue Zeng

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Education and Awards

Aug.2021 - May.2023 **Duke University - Master of Engineering in Electrical and Computer Engineering**

- Programming Languages: C++, C, Python, Java, Verilog
- Skill Set: SQL, TCP, HTTP, HTML, CSS, JavaScript, Valgrind, Git, Image & Video Processing

Sep.2016 - Jun.2020 **Xi'an Jiaotong University - Bachelor of Economics in Finance**

Projects Highlights

Sep.2022 - Sep.2022 **Markov Text Generator** Individual Project

- Utilized: Python, N-gram Model
- Implement a text generator basing on N-gram model, which generates text with given input corpus.

Sep.2022 - Sep.2022 **Spelling Corrector** Individual Project

- Utilized: Python, Noisy Channel Model, Levenshtein Distance, NLP
- Implement a spelling corrector which reads user's typo input and return the correct word.
- Compute the candidate words' probability based on noisy channel model, use Levenshtein distance to rank the priority of candidates.

Aug.2022 - Sep.2022 **User Login and Registration Webpage Demo** Individual Project

- Utilized: Java, Mybatis, SQL, Servlet, HTML, Web.
- Implement user login and registration webpage with message alerts of login or registration results.
- Modify XML files and use Mybatis to maintain and update users' accounts database.
- Implement RegisterServlet class and LoginServlet class to request and respond to data from the webpage.

Mar.2022 - Apr.2022 **Hot Potato** Individual Project

- Utilized: C, TCP.
- Design and implement distributed multi-player game using socket programming.
- Achieve network communication by TCP sockets. Update information between processes across sockets.

Feb.2022 - Mar.2022 **Battleship** Individual Project

- Utilized: Java, Factory Design Pattern, Unit tests, UML.
- Implement a terminal text-based battleship game following Object-Oriented principle.
- Use the factory design pattern to abstract the ship factory class to create chess pieces and use UML diagrams to determine the addition of classes and methods.

Jan.2022 - Feb.2022 **Implementation of Thread Safe Malloc and Free Function** Individual Project

- Utilized: C, Linux, Linked list Data Structure.
- Implement the malloc function with linked-list data structure to bookkeep the freed heap data chunks.
- Adopt sbrk() to implement the memory allocation based on the First-Fit Strategy and the Best-Fit Strategy.

Nov.2021 - Dec.2021 **Choose Your Own Adventure** Individual Project

- Utilized: C++, Linux, Graph Data Structure, Valgrind.
- Implement an interactive story-presenting program, which can read the page number typed in by player and present the corresponding story page, choices, and endings.
- Use graph data structure to find all possible decision paths and display required paths to player. Accomplish the Valgrind check and exit the program maintaining memory clean.

Oct.2021 - Nov.2021 **Tetris Game** Team Lab Project

- Utilized: Verilog, FPGA, MIPS, Single circle processor, Pipeline, Datapath, Register Files, ALU.
- Implement Tetris game based on FPGA board and single circle processor.
- Implement a single circle processor with MIPS architecture using Verilog.
- Develop logic control of the game with assembly language, achieve IO interface of PS2 keyboard and VGA.

Aug.2021- Oct.2021 **Register File and Arithmetic Logical Unit** Lab Project

- Utilized: Verilog, FPGA
- Design and simulate a register file with two read ports and one write port by using thirty -two D-flip-flops, tristate buffers, AND gates and 32:1 mux.
- Implement an ALU with 32-bit carry-select adders, accomplishing addition, subtraction, multiplication, division, bit-wide AND, OR, 32-bit SLL and SRA on FPGA board.

Internship

May.2022 - Jul.2022 **SAP - Developer Intern in Treasury and Risk Management Team** Shanghai, China

- Utilized: START, STEP, ABAP
- Modify START test cases and use STEP tool to make automated testing scripts, significantly improving the reuses of UI test cases. And finally improve the test case pass rate from 70% to 85%.