Yue Zeng

(919)969-3518 | zengyuezoe@outlook.com | Personal Website | LinkedIn

EDUCATION

Duke University

Master of Engineering in Electrical and Computer Engineering — *Expected in May 2023*

Xi'an Jiaotong University

Bachelor of Economics in Finance — *Sep. 2016 - Jun. 2020*

TECHNICAL SKILLS

Programming Languages: C++, Java, C, JavaScript, Python, PHP, HTML, CSS, Verilog, Shell, MATLAB

Tools & Frameworks: Django, jQuery, Node.js, React.js, Docker, Vue, MyBatis, JDBC, Maven, Linux, Bootstrap, FPGA

Database: MySQL, PostgreSQL, Druid

INTERNSHIP EXPERIENCE

SAP

Software Developer Intern — *May 2022 - Jul. 2022*

- Developed an internal case management tool with responsive UI in **React.js** backed by **RESTful APIs**, which tracks and updates module test case information in **MySQL**, helping the team improve case management efficiency by **50%**.
- Implemented 30+ **RESTful APIs** with the **Django** framework to accomplish data queries. Wrote a CSV combiner in **Python** to store and deliver outputs in **CSV** files.
- Improved portability of the application and reduced deploying time when delivering projects and managing dependencies by **docker**.
- Accommodated Agile development with **Scrum** framework. Planned, tracked, and managed weekly tasks on **Jira** with teammates.

PROJECTS

Thread Safe Dynamic Memory Management Library Functions (C, Linux, Shell) — *Dec. 2022 - Jan. 2023*

- Implemented memory allocation and deallocation library functions using **Concurrency Programming** in **C**.
- Achieved high-speed performance and thread-safe operations supporting **2K+** executions per second.
- Utilized Linux system calls to realize memory allocation strategy, reducing the data chunk segmentation rate by **10%**.

Mini Uber Website (Python, Django, PostgreSQL, RESTful, jQuery, AJAX, JavaScript, CSS, HTML) — *Dec. 2022 - Jan. 2023*

- Designed and developed a full-stack web application, which supports ride-booking, ride-sharing, ordering, and order-tracking.
- Designed and created the database with **PostgreSQL** and utilized **Django** to develop 30+ **RESTful** APIs handling HTTP requests.
- Utilized **jQuery** and **Bootstrap** to create front-end pages and used **AJAX** to send and retrieve data between browser and server.

Shopping Mall Brand Management System (Java, Vue, MyBatis, JavaScript, HTML, CSS, MySQL) — *Oct. 2022 - Nov. 2022*

- Designed and developed a shopping mall brand management system, supporting brand updating, filtering, and querying.
- Created webpage presentations using **JavaScript**, **HTML**, and **CSS** with **Vue** framework, supporting interactive UI.
- Created database using **MySQL** and utilized **MyBatis** to build up filtering functionality on the management system.
- Implemented **Servlet** with HTTP protocol to facilitate communication between the web browser and Tomcat server.

Choose Your Own Adventure (C++, Linux, Valgrind, OOP, GitHub, Valgrind, UML, Petri net) — *Apr. 2022 - May 2022*

- Created an interactive command-line-based story selection game on the remote **Linux** virtual machine.
- Designed apps following Object Oriented Principle with **UML** diagrams and generated the game logic with Petri net.
- Maintained the heap memory clean with **Valgrind** check and utilized **Git** to make version control.

Tetris Game (Verilog, FPGA, MIPS, PS2 Keyboard, VGA controller) — *Mar. 2022 - May 2022*

- Designed and developed the Tetris Game on an **FPGA** board, processing the player's input from the PS2 keyboard and presenting Tetris blocks and movements on screen with the VGA controller.
- Implemented a single-circle processor with **MIPS** architecture, using **Verilog** assembly language to achieve computations for block boundary judgment, block rotation, and block rows elimination.

HTTP Caching Proxy Server (C++, TCP Socket, Network, Muti-Thread) — *Feb. 2022 - Mar. 2022*

- Established an HTTP caching proxy server to handle GET, POST, and CONNECT requests.
- Implemented RAII technique with **C++11** and modeled class with strong exception safety guarantee.
- Added concurrency with read-write lock to handle requests from different endpoints. Sent and Received packets using **TCP sockets**.

Risk Game (Java, TCP Socket, UML, JSON, CI/CD, Docker, JavaFx) — *Nov. 2021 - Jan. 2022*

- Developed a game which enables users to attack territories, obtain resources, move soldiers, and upgrade levels. Developed backend server with Java and frontend UI with **JavaFX** and MVC.
- Utilized concurrency to deal with multiple players. Used TCP socket and JSON for Server-Client communication.
- Applied Agile methodology, carried out issue tracking and CI/CD pipeline, drew **UML** diagram and prototype.