Enze Yuan

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EDUCATION

CARNEGIE MELLON UNIVERSITY
MS in Artifical Intellegience
Aug 2024 - | Pittsburgh, PA
Cum. GPA: 4.0 / 4.0
Major GPA: 4.0 / 4.0

UNIVERSITY OF MICHIGAN
BS in Computer Science
Sep. 2021 - June 2024 | Ann Arbor, MI
Cum. GPA: 3.932 / 4.0
Major GPA: 3.92 / 4.0
Hornors: Honors Designation(21-23)
James B. Angell Scholar
Summa Sum Laude

LINKS

Github:// **Yez626**
LinkedIn:// **enzeyuan**

COURSEWORK

UNDERGRADUATE
Operating Systems
Web Systems
Computer Networks
Compiler Construction
Programming Paradigms
Data Structure & Algorithms
Computer Architecture
Unix Tools and Scripting

MASTER
Machine Learning
Building Reliable Distributed System
Neural Networks and Deep Learning
Advanced Digital Signal Processing
Computer Systems

SKILLS

PROGRAMMING
C++ • C • Shell • Python • Java
Matlab • Rust • Haskell • LaTeX
Basic • CSS • Assembly
Familiar:
ROS2 • iOS • TensorFlow • SWI-Prolog

DATA BASE
MySQL • Qdrant • MongoDB

FRAMEWORKS
React• Vue• Django
Flutter•AWS•Flask•Docker

RESEARCH EXPERIENCE & WORK

OMNISYNKAI | Software Engineer Intern
June 2024 - Present

- Integrated **GrapesJs** with React using **@grapesjs/react** to create a sophisticated web application builder, enabling users to design web pages visually. Implemented **10+** modular and reusable components such as **Navbar**, **Add**, **StylesSettings**, **Pages**, **Layers**, **Topbar**, and **RightSidebar**.
- Developed **20+ RESTful APIs** using **Node.js** and **Express.js** to handle data storage and retrieval for the web application builder. Integrated **MongoDB** to manage and store user-created templates and components.
- Ensured secure user authorization with **JWT** to safeguard user data and access permissions, safeguarding over **1000+** user accounts and access permissions.
- Deployed the application on **AWS**, utilizing **EC2** for scalable hosting and S3 for secure storage of user data. Optimized the infrastructure using **AWS CloudFront**, reducing latency by **30%**.

DB SCHENKER | Software Engineer Intern
May 2024 - Present

- Developed a real-time chat server web app for knowledge base document retrieval based on **RAG** using **LangChain**, **Llama_index**, **Qdrant**,**FastEmbed**
- Integrated hybrid embedding techniques to provide enhanced text processing and understanding based on **all-MiniLM-L6-v2** and **Splade_PP_en_v1**,
- Implemented the Retrieve and the Reranking algorithm for hybrid search based on **Reciprocal Rank Fusion**, increasing the **F1 score** for search from **0.6** to **0.83**
- Developed **15+ RESTful APIs** for client-server communication, ensured scalability and reliability by containerizing the application with **Docker**, Set up continuous integration and deployment pipelines with **GitLab CI**, reducing deployment time by **50%**.
- Enhanced the overall security posture for the web app by implementing security features against SQL injection and cross site scripting

UMICH FUTURE OF PROGRAMMING LAB | Researcher
May 2023 - May 2024

- Worked with **Prof Cyrus Omar** to create **RustViz**, a tool that generates interactive visualizations from simple Rust programs to assist users in better understanding the Rust Lifetime and Borrowing mechanism.
- Engineered detailed, interactive diagrams that visually represent the compiler's decision-making process during the analysis of lifetimes and borrowing. The tool, developed using **JavaScript**, **Rust**, and **WebAssembly**, improved users' comprehension by **40%** on average, as measured by pre- and post-usage quizzes.

UMICH IGYM LAB | Research Assistant
May 2023 - May 2024

- Worked with **Prof Hun-Seok Kim** to create an **augmented reality system** for inclusive play and exercise, using interactive floor projection technology to enable people with and without mobility disabilities to compete equally.
- Developed player detection system to capture motion using **OpenCV** in **C/C++**
- Improved the motion detection TRP(True Positive Rate) to **96%** by testing different foreground background separation algorithms(**Mask R-CNN, Graph Cuts, Optical Flow**); Achieved an image processing speed of **90 Hz**