Ruilin Jin

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Education

Case Western Reserve University **Sep. 2023 - Expected May 2025**
Master of Science in Computer Science | Focusing on AI *Cleveland, OH*

Rensselaer Polytechnic Institute **Sep. 2016 – May 2021**
Bachelor of Science in Information Technology & Web Science; Minor: Philosophy *Troy, NY*

Work Experience

China Railway Cloud Information Technology Co., Ltd. **Jun. 2021 - Aug. 2023**
Senior Full Stack Developer *Beijing, China*

- **R&D Platform** | *JS/TS, Vue, micro-frontend, micro-services, SonarQube*
  - Spearheaded frontend architecture for an R&D platform, serving over 350 internal developers and 500,000 users. Developed and maintained a comprehensive component library.
  - Deisnged and implemented a micro-frontend architecture using JS/TS and Vue, reducing the development cycle by 40% and integrating SonarQube to improve code quality.
  - Enhanced a component library and CI/CD processes, increasing unit test coverage to 86% and streamlining large-scale project management.
- **IoT Platform** | *Kafka, MySQL, ClickHouse*
  - Led system architecture design for an IoT platform integrating Kafka, MySQL, and ClickHouse, improving data management and display across mobile, PC, and wall displays.
  - Engineered Python algorithms for data analysis and implemented a Kafka-based real-time data transfer system, reducing data processing time by 60%.
- **Marketing Management System** | *React, PyTorch, Nginx, Docker, Kubernetes, Webpack*
  - Managed an Agile development team of 12 engineers, enhancing the system with key features such as project, contract, and bidding management, among 8 distinct modules.
  - Implemented virtual scrolling with React, reducing page load times by 90% for 230,000+ lines of data.
  - Enhanced system availability and efficiency using Nginx, Docker, and Kubernetes, alongside a Webpack-based reduction in package size by 70%.

IBM **Sep. 2019 - Dec. 2019**
Software Engineer Intern *Armonk, NY*

- Engaged in the design and development of a Use Case Analysis report, UI/UX mock-up, and a detailed roadmap for IBM Watson's digital twin technology.
- Conducted competitive analysis on potential applications, market viability, and technical aspects, contributing to strategic insights for platform growth and industry impact.

Research and Projects

AI4EDU Research Project | *Generative AI in Education* **Feb. 2024**

- Architected and implemented a scalable backend structure for educational platforms using Python, FastAPI, and Docker, establishing separate development and production environments to ensure seamless deployment and testing.
- Developed the API gateway with Nginx, enabling efficient request routing and load balancing, thereby improving system reliability and response times.
- Integrated advanced features into the student-side application, including real-time chat, model selection, and text-to-speech, enriching user experience and educational engagement.

Causal Coherence in Image Inpainting | *Generative AI, Computer Vision, Causal Inference* **Sep. 2023**

- Developed a novel image inpainting approach using Causal Layer of CausalVAE enhanced by NVAE, improving background clarity and generation quality by 27% and 35%, respectively.
- Designed generative processes leveraging NVAE's residual cell structures, increasing semantic coherence by 20%.

Technical Skills

Languages: JavaScript, TypeScript, Python, GO, Java, C++, SQL
Database: MySQL, PostgreSQL, Redis, DynamoDB, ClickHouse, MongoDB, Milvus,
Technologies/Frameworks: Vue.js, React.js, Next.js, Redux, Vuex, Vite, Webpack, Tailwind, FastAPI, Flask, PyTorch, TensorFlow, MLFlow, Kafka, Spark, Kubernetes, Docker, Hadoop, SQLAlchemy, Git, AWS