

Chenyang (Raphael) Du

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EDUCATION

Santa Clara University, CA, USA

Sep 2023 - May 2025 (Expected)

Master of Science in Computer Science

GPA:4.0/4

Related Courses: Design and Analysis Algorithms, Operating Systems, Web Development, Computer Networks, Computer Architecture, Artificial Intelligence, Database System, Natural Language Processing

Duke University, NC, USA

Sep 2021 - Jun 2023

Master of Science in Civil and Environmental Engineering (Track in Risk Engineering)

GPA:3.81/4

Related Courses: Deep learning, Machine learning, Bayesian Statistical Modeling, Risk and Resilience Engineering

TECHNICAL SKILLS

Language	Java, JavaScript, TypeScript, C++, Python, HTML/CSS, SQL, R, Verilog
Frameworks	Django, React, Three.js, Node.js, Next.js, Remix.js, Redux, PyTorch
Databases & Tools	Git, GitHub, Shell, Docker, Linux, MySQL, MongoDB, LaTeX, Figma, Postman

WORK EXPERIENCES

Software Engineering Intern

San Francisco, California

Datatrixs

Mar 2024 - Present

- Developed and maintained a responsive, AI-driven accounting platform using the **MERN** stack and deployed through **Netlify**.
- Implemented microservices architecture using **Node.js** and **Express**, improving API response time by 25% and reducing server load by 30%. Using **Agile** and **Scrum** methodologies to streamline development and integration processes.
- Identified and resolved user-reported bugs and performance issues, continuously improving site performance, and implementing iterative enhancements to ensure sustained user satisfaction and increased conversions.

Full Stack Web Developer Intern

Burbank, California

Cooledtured Collections

Nov 2023 – Mar 2024

- Contributed significantly to the migration of Cooledtured's storefront from Shopify's front-end to a React based custom Headless e-commerce stack (**Shopify Hydrogen + Remix.js**), resulting in faster page load. This transition unlocked greater scalability for future growth and enhanced the platform's performance.
- Collaborated with UI/UX and Web Dev teams to build website using **React** with **TypeScript** and **Tailwind** resulting in an increase in average session duration and improved user engagement.
- Implemented a robust search engine using **GraphQL** query, with predictive search features and integrated product recommendations, driving a **15% boost** in product discovery and a **10% rise** in sales conversions.

PROJECTS & RESEARCH

Personal Portfolio Website | [Portfolio](#)

Built a responsive and customizable portfolio website using **Next.js** with **Typescript** and **Tailwind CSS**.

Video Game Sharing platform

- Designed a thriving user review and recommendation platform for video games with **MERN** stack, empowering players to find their next obsession.
- Built a **RESTful API** in **Node.js** with **Express**, seamlessly integrating with **MongoDB** to power data retrieval and storage. Designed dynamic user interface with **React** as the front-end and created custom hooks for state control between authorized and unauthorized modes.

Restaurant Management System

- Architected and implemented **REST APIs**, leveraging the **Django REST Framework**, enabling a range of functions, including menu-item management, cart operations, and order processing.
- Orchestrated seamless integration with Django models, ensuring data consistency and timely updates within the **MySQL** database. Implemented various features such as authentication, search functionality, pagination, and API throttling for different users and use **Postman** to test and debug API.

Master Thesis

"Estimating ground-level PM2.5 using micro-satellite images, meteorological and temporal information"

- Developed a novel **Implicit Composite Kernel-Random Forest (ICK-RF)** joint model that accurately predicts local PM2.5 air pollution hotspots at a 300 m resolution. It integrates diverse data sources, including daily high-resolution satellite imagery, meteorological conditions spatial, and temporal information, effectively incorporates seasonal variations and achieving significant accuracy improvements in PM2.5 prediction over existing methods.