

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, GraphQL, R, Verilog
Frameworks	Django, React, Tailwind CSS, Node.js, Next.js, Remix.js, Redux, PyTorch
Databases & Tools	Git, GitHub, Shell, Docker, Linux, MySQL, MongoDB, LaTeX, Figma, Postman

WORK EXPERIENCES

Full Stack Web Developer

Burbank, California

Cooledtured Collections, Internship

Nov 2023 – Present

- 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. This enhancement significantly improved user engagement metrics.
- 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.

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.