Jay Madupalli

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Skills

Languages: TypeScript, JavaScript, Java, Python, PHP
Frontend: Next.js, React, Angular, Redux, React Query, GraphQL, Zustand, Tailwind, Bootstrap, SCSS, CSS
Backend: Node.js, NestJS, Spring Boot, SocketIO, WebRTC, TypeORM, Spring JPA, Spring Security, JUnit, Flask
Other: AWS, NPM, Vite, Maven, SQL, Git, Docker, CI/CD, Turborepo, Bash, Nginx, Caddy, Tomcat

Experience

Software Developer - 3, University of Minnesota – Minneapolis, MN   **May 2024 – Present**
- Designed and developed a multi-tenant clinical study platform using NestJS, Next.js, React, and Payload CMS
- Implemented a monorepo architecture with Turborepo and pnpm, improving efficiency and maintainability
- Built granular role-based access control, file sharing, drug management, randomization applications, and other clinical study-specific functionalities, integrating PostgreSQL, Oracle, and RedCap
- Optimized deployment with Docker, automatic SSL provisioning, and scalable API integrations via GraphQL, REST

Graduate Research and Teaching Assistant, Missouri State University – Springfield, MO   **Aug 2022 – Dec 2023**
- Devised decentralized crowdsensing framework for user privacy, integrated behavioral economics for retention
- Developed Solidity smart contracts and conducted simulations using TypeScript for performance refinement
- Published conference research paper and taught, graded, and provided feedback to 150+ students over 1.5 years

Full Stack Developer, Myron Royce Gardens – Ozark, MO   **May 2023 – Aug 2023**
- Developed a customer management portal, replacing 40+ disparate Excel sheets, and centralizing customer data
- Built the portal using Node.js, React, and PostgreSQL, ensuring seamless deployment and user-friendly features
- Reduced customer support overhead by 30% through the transition, streamlining 25+ services for 800+ clients

Software Developer, ResNet, Missouri State University – Springfield, MO   **May 2022 – Aug 2022**
- Automated device registration for 400+ machines in 9 residence halls using Python for inventory efficiency
- Developed REST APIs (Flask), refactored DB schema for dynamic device data improving equipment tracking

Software Engineer, Axiom IO – Hyderabad, India   **Feb 2020 – Oct 2021**
- Led a team in developing a telemedicine app with Node.js and Angular to facilitate remote healthcare access
- Integrated video conferencing and chat features using WebRTC and WebSockets for real-time communication
- Architected HIPAA-compliant, scalable multi-tenant system on AWS using EC2, RDS, S3, Route53, and SES
- Established error-handling mechanisms in AWS Lambdas (Flask) for data reliability in a data warehousing app

Founder, Skillerz – Remote | [Archive Links]   **Dec 2015 – Sept 2021**
- Developed ad network accumulating $100k+ revenue and 42,000+ users over 5 years with PHP, MySQL, Nginx
- Refactored features and implemented load balancing strategies for scalability, handling millions of impressions
- Automated payments and site management by integrating external APIs, scheduled cron jobs, and shell scripts
- Established web ecosystem including ad network, traffic exchange app, internet forum, and web hosting service

Projects

redy | [Turn resume into a personal website] | Spring Boot, Next.js, React, PostgreSQL, Tailwind, Docker   redy.page
- Developed platform for instant personal website and blog creation using Spring Boot, Next.js, and Nginx
- Integrated Apache Tika and OpenAI for automated content extraction, analysis, generation based on resume data
- Established continuous deployment with GitHub Actions and Docker Compose for Spring Boot and Next.js

Education

Master of Science in Computer Science – Missouri State University   **Dec 2023**
Graduate Certificate in Data Science – Missouri State University   **Dec 2023**
Bachelor of Technology in Computer Science – Jawaharlal Nehru Technological University, Kakinada   **May 2019**