

VIKAS MISHRA

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EDUCATION

Master of Computer Science	California State University Sacramento (GPA: 3.85)	Aug 2022 - Dec 2024
Master of Computer Application	Medicaps University, India (GPA: 3.4)	Aug 2017 - May 2019

EXPERIENCE

Office of Water Programs	Full Stack Developer	Jun 2023 - Present
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- Led full-stack development of a mission-critical Water Quality Testing System (**React, Python/Flask, MS SQL, Tailwind CSS**) for California State Water Board, simplifying complex PFAS chemical data management for 4,000 wells and demonstrating commitment to impactful environmental science projects
- Architected and delivered a Stormwater Analytics Web Tools System (**React, Python/Flask, MS SQL, Typescript**) for CalTrans, enabling real-time data reporting and contamination analysis, translating complex scientific data into actionable, visual insights
- Spearheaded JavaScript to TypeScript migration with Zod validation, reducing runtime errors by 30% and showcasing a proactive approach to enhancing code quality and system reliability
- Led frontend development (**React, TypeScript**), translating Figma designs into responsive, WCAG-compliant UIs, boosting user adoption by 80%, and showcasing a knack for user-centric design and high-quality visual output
- Collaborated with UX on **Figma** prototypes, incorporating user feedback to refine designs, reducing iterative cycles by 25%, and highlighting skills in product questioning and user-centered design
- Improved frontend performance by 40% in a data-heavy React app via **Redux optimization, lazy loading, code-splitting, and virtualization**, demonstrating expertise in building beautiful, high-performant products for complex data
- Accelerated data-heavy UI rendering by 50% using **React Query** for caching/pagination, enabling seamless browsing of 10,000+ records, and laying the groundwork for effective data exploration and visualization

Tata Consultancy Services	Backend Developer	Jun 2019 - Oct 2022
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- Architected microservices using **Spring Boot 3.0** and Spring Cloud Gateway for SAP IDoc Management, processing 500,000+ documents daily with high availability and fault tolerance for Jaguar Land Rover, Johnson & Johnson, Walgreens, and Pepsico, among others
- Engineered RESTful APIs using **Spring Data JPA** annotations and query optimization, achieving 75% faster dashboard analytics through efficient N+1 query resolution
- Improved database performance by 60% through query optimization, indexing, and JPA batch processing for large-scale SAP master data operations
- Built a real-time SAP system monitoring with **RabbitMQ** for asynchronous message processing, which streamlined communication between services, reducing latency by 40% through custom health checks
- Implemented **Eureka** for service discovery, facilitating dynamic scaling and load balancing of microservices for different capabilities of SAP
- Delivered comprehensive out-of-the-box integration for SAP master data, including material, vendor, and customer data, with the added flexibility to incorporate new custom master data types via configuration settings and database mapping in our application

PROJECTS

Enhancing a Parallel Branch-and-Bound Algorithm for the Sequential Ordering Problem (Github)	Jan 2024 - Present
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- Developed an efficient memory management technique using C++ for a parallel branch-and-bound algorithm, achieving a 43.81% reduction in memory exhaustion time. Additionally, implemented the integration of the Lin-Kernighan-Helsgaun (LKH) heuristic to enhance pruning efficiency, demonstrating the ability to integrate diverse algorithmic strengths to tackle complex problems

Social Media Application on MERN (Github)	Aug 2023 - Sep 2023
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- Built a social media platform using the MERN stack, designing both the front-end and back-end, and deployed it seamlessly on Vercel

Email Generator using LangChain, Llama-3.1, and ChromaDB (Github)	Aug 2024 - Sep 2024
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- Developed an email generator utilizing **LangChain** and **Llama-3.1-70b**, integrated with **ChromaDB** to extract and process job descriptions and match with my skills and projects to generate tailored, professional emails

SKILLS

Machine Learning	Scikit-learn, Keras, PyTorch, Stable Diffusion, Llama-3.1-70b (LLM)
Languages	Java 8, Javascript (ES6), SQL, Python, TypeScript, GIT, HTML5, C++, CSS/SASS, PHP
Frameworks	Tailwind CSS, React JS, Redux, NextJS, JDBC, Selenium, Spring Boot, TensorFlow, PyTorch, LangChain
Database	MongoDB, MySQL, SQLite, Neo4J, PostgreSQL, ChromaDB (Vector database), SQL Server
Tools	REST APIs, React Query, Flask, Docker, JPA/Hibernate, Jenkins, JIRA, Confluence, Maven, SAP, Node.JS, BitBucket