Raj Patel

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EDUCATION

California State University — **Long Beach, CA**
Master of Science in Computer Science — Jan. 2023 – Dec 2024

Gujarat Technological University — **Ahmedabad, India**
Bachelor of Technology in Computer Engineering — June. 2017 – July 2021

EXPERIENCE

California State University | Research Assistant | **Long Beach, U.S.A** — **June 2024 – Present**

- Spearheaded and implemented machine learning models using Python, NumPy, and TensorFlow to analyze daily movement datasets captured via radar sensors, identifying key movement patterns.
- Preprocessed and structured radar sensor data using Python, applying Fast Fourier Transform (FFT) algorithm and signal filtering to extract key features for accurate analysis.
- Developed React Native app for iOS/Android, collaborating with faculty and other team members to enhance patient engagement and activity through personalized data insights.
- Designed and set up AWS services, including Amazon S3 for scalable storage, aiming to cut data retrieval times by 40% and ensure secure data management.

Gujarat Infotech Limited | Software Engineer | **Ahmedabad, India** — **Sept 2021 – Oct 2022**

- Utilized Flask and agile methodologies to create RESTful APIs, allowing for seamless interaction between front-end and back-end systems and a 30% reduction in API response times.
- Built and maintained Django RESTful APIs using Version Control, and optimizing cache efficiency through Redis integration, achieving 20% faster response times, 30% fewer database queries and improved security.
- Fostered the seamless coupling of an email communication system and a payment gateway, which increased successful transactions by 38% and user retention by 16% and enhanced security.
- Deployed a CI/CD pipeline using Jenkins, resulted in a 70% reduction in error rates and a 25% increase in deployment frequency.
- Successfully deployed web apps to AWS EC2 instances, ensuring 99.9% uptime and high availability, resulting in 20% reduction in average response time by fine-tuning server configurations and optimizing database queries.
- Leveraged Docker Compose to optimize the deployment of high complex Flask and Django apps, reducing deployment time by 50% and improving configuration inconsistencies, resulting in a 25% decrease in IT spending for the firm.
- Implemented Role-Based Access Control (RBAC) using JSON Web Tokens (JWT) for web apps, assuring authorized access and safeguarding sensitive data.
- Structured PostgreSQL schemas, cut query time by 18% in web application, optimizing web development performance.

Gujarat Infotech Limited | Software Engineering Intern | **Ahmedabad, India** — **Jan 2021 – March 2021**

- Orchestrated the transformation of user interfaces using React and MobX, fostering a remarkable 24.73% surge in user engagement, and collaborated with cross-functional teams to execute rigorous software testing, validation and debugging processes.
- Spearheaded a front-end transformation with React and JavaScript integration, leading in a 20% reduction in package size and 40% faster loading speed, also contributed to effective code review meetings to guarantee the front-end component's quality and maintainability.
- Outlined the design and implementation of a real-time notification system using React, TypeScript, Redux, and WebSockets, resulting in an 80% decrease in latency; also led to rigorous software testing and validation procedures ensuring product stability and quality.

PROJECTS

Morning News (News App) | Python, Tkinter

- Engineered a robust CRUD application using Django framework, enabling seamless task management for 300+ students; optimized workflow efficiency by 22% through streamlined task allocation and progress tracking.
- Pioneered the integration of external APIs, expanding the application's functionality; resulted in providing users with a richer, more streamlined experience through seamless access to diverse data within the app's interface.

ChatBridge Network (Social Meetup Platform) | React, Node.JS, MongoDB, Express.JS

- Hosted a fully optimized chat app on Hostinger, leveraging advanced technologies like React, Express.js, MongoDB and Node.js; improved server response time by 14%, resulting in increased user satisfaction scores by 20%.
- Integrated Socket.io with Zustand for real-time communication and state management in a full-stack chat application, enhancing responsiveness and user interaction through efficient group creation and file handling.

TECHNICAL SKILLS

Languages/Databases: C, C++, C#, Java, Python, JavaScript, HTML, CSS, Go, MySQL,SQL, MongoDB, PostgreSQL, Oracle
Frameworks/Libraries: React, Node.js, Flask, RESTfulAPI, Django, pandas, NumPy, Matplotlib, Tensorflow, Pytorch
Developer Tools/Cloud: Git, VS Code, PyCharm, IntelliJ, Eclipse, Jira, Jenkins, kubernetes, kafka, AWS, Docker