Sanjib Barakoti

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SUMMARY

- Eight months of professional experience in the design, development, and deployment of web applications.
- Proficient in object-oriented design, algorithms, and software design patterns, with a strong foundation in data structures.
- Expertise in building responsive, dynamic web applications and APIs using MERN stack; Experienced with unit testing framework like Vitest.
- Well-developed communication, teamwork, analytical and problem-solving skills developed through industrial experience and academic projects.

TECHNICAL SKILLS

- **Programming Languages**: JavaScript (ES6+), TypeScript, Python, C, C++, Java, MATLAB
- **Frontend Technologies**: React, HTML5, CSS3, Figma, Bootstrap, Tailwind CSS, Ant Design, AJAX, JSON
- **Backend Technologies**: Node.js, Express.js, Django, REST APIs
- **Databases and Source Control**: MongoDB, MySQL, PostgreSQL; GIT, GitHub
- **Cloud and Devops**: AWS (S3), Docker Containers
- **Testing and Tools:** Vitest, Postman; Jira, Visual Studio Code, PyCharm, Eclipse

EDUCATION

Computer Software and Database Development

Loyalist College in Toronto, Ontario, Canada   Jan 2023 – Aug 2024

B.E in Electronics and Communication

Ramaiah Institute of Technology, Bangalore, India   Aug 2017 – Jul 2021

WORK EXPERIENCE

CitizenInfotech Pvt. Ltd. Nepal (*Software Developer*)   Jan 2022 – Aug 2022

- Developed and deployed citizen service applications using the MERN stack (MongoDB, Express.js, React, Node.js), improving accessibility for services like birth, marriage, and ID registration, while ensuring seamless integration with existing municipal systems.
- Built and optimized scalable RESTful APIs using Node.js and MongoDB, enhancing the performance of tax and revenue services with secure data handling.
- Streamlined permit and licensing systems using React, Node.js, and Express.js, automating manual processes with dynamic form handling and backend workflows improving user satisfaction.
- Created responsive citizen portals using React, Ant Design, and CSS media queries, ensuring optimized performance and accessibility across a wide range of devices and browsers for municipal services.
- Collaborated with a cross-functional team, conducted code reviews and knowledge-sharing sessions, improving code quality and team efficiency.

ACADEMICS PROJECTS

Navigation system

- Developed a full-stack navigation application integrating Google Maps API, utilizing Vite for frontend, Node.js for backend, and MongoDB for database management, demonstrating proficiency in modern web development technologies.

- Implemented robust user authentication using JSON Web Tokens (JWT), and created features including user travel history tracking, live weather information display, and current location marking, showcasing skills in secure application development and third-party API integration.

- Designed and built an advanced routing system supporting multiple travel modes (driving, walking, cycling, transit), with real-time location tracking and optimal route calculation, highlighting expertise in complex algorithm implementation and geospatial data handling

Crowd Anomaly Detection

- Implemented a real-time crowd anomaly detection system using Python and OpenCV, achieving 95% accuracy in identifying security threats and processing video feeds at 30 frames per second.

- Developed and optimized computer vision algorithms including Shi-Tomasi Corner Detection and Lucas-Kanade Optical Flow, reducing false positive alerts by 40% compared to traditional motion detection methods.

- Designed an end-to-end security solution integrating video input processing, real-time analysis, and alert triggering, demonstrating proficiency in computer vision, software development, and security system integration.

PERSONAL PROJECTS

Movie Server

- Developed a backend server simulation enabling full CRUD operations on a MongoDB database, ensuring efficient data management and retrieval processes.

- Implemented robust authentication, authorization, and access control mechanisms, safeguarding sensitive data and user sessions using industry-standard practices.

- Integrated JSON Web Token (JWT) for secure user session management and built custom error handlers and middleware to streamline data processing and error reporting.

GitHub URL: Movie Server

URL Shortener

- Designed and developed a server-side application to efficiently shorten URLs, providing a seamless experience for users to input and retrieve shortened versions of URLs.

- Utilized Node.js, Express, MongoDB, and TypeScript to ensure a scalable, type-safe backend architecture, while employing nanoID for generating unique, collision-resistant short URLs.

- Focused on performance optimization and modular design, implementing a structured approach for handling user input and data storage with best practices in URL shortening.

GitHub URL: URL Shortener

ADDITIONAL TRAINING

MongoDB Node.js Developer Path (MongoDB University)	Dec 2023
Microservice foundation and architecture (LinkedIn Learning)	Jan 2024
Microservices with Node JS and React (Udemy)	Oct 2024- Present