Sunanda Kar

Software Development Engineer, Level 3
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Education

Radha Krishna Institute of Technology & Engineering (BPUT University) June 2024
Master of Computer Applications *Khordha, Odisha, India*

Technical Skills

Programming Languages: Java, C, C++, JavaScript, SQL, Python, HTML, CSS, Node.js, React
Technologies: TCP/IP, CI/CD, MapBox, IndexDB, PostgreSQL, ArcGIS, QGIS, OpenCPN, Unreal Engine, Unity
Tools: Git, Jira, Android Studio, GeoServer, Qt, IntelliJ, VS Code, QGIS

Work Experience

MapMyIndia (MMI), Bangalore, India January 2024 – Present
Software Development Engineer, Level 3

- Designed and developed geospatial applications across desktop, mobile, and web platforms, enabling location-based visualization, analysis, and user interaction.
- Built and maintained backend services to manage geospatial data processing, server communication, and efficient handling of client requests.
- Implemented advanced map rendering capabilities, including dynamic layering, styling, and scalable visualization of large spatial datasets across multiple zoom levels.
- Developed modules for spatial analysis, terrain modeling, and coverage visualization, transforming geospatial data into actionable graphical outputs.
- Integrated third-party mapping frameworks and geospatial standards to support both 2D and 3D visualization, enhancing situational awareness and spatial representation.
- Engineered data transformation pipelines to convert and standardize heterogeneous geospatial formats for seamless system integration and visualization.
- Contributed to the design of extensible tools enabling users to create, manage, and visualize custom spatial data layers.
- Collaborated on building interfaces that integrate machine learning outputs with geospatial visualization systems to support analytical workflows.
- Modernized legacy systems by upgrading library dependencies and refactoring code to ensure compatibility with evolving APIs and platform standards.
- Developed and integrated service-oriented components based on RESTful architecture to enable scalable and maintainable system communication.
- Designed and implemented robust data management modules following CRUD principles to support efficient data lifecycle operations.
- Implemented specialized spatial processing algorithms to perform domain-specific geospatial computations and analysis.
- Engineered concurrent processing mechanisms to enable efficient handling of real-time and high-volume data streams, ensuring responsive and accurate visualization.
- Built server and client-side integration for fetching ENC (Electronic Navigational Chart) layouts, enabling layout retrieval and supporting additional chart interaction features.

MapMyIndia, Bangalore, India April – August 2019
Winter Intern

- Implemented IndexedDB-based storage for efficient handling of large JSON data in a web application.
- Developed UI features for filtering and exporting annotated data, improving usability.
- Enhanced performance with offline support and reduced server calls, boosting responsiveness.

Academic Projects

- **E-Commerce Website** – Built a user-friendly online clothing store with a smooth shopping and checkout experience.
- **Hostel Management System** – An RDBMS project to handle booking and management of rooms in a hostel.
- **Online Voting Website** – Created an online voting website using cryptography as the means of authenticating votes.