

# Shawan Mandal

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## SUMMARY

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Software Engineer with 4+ years of experience designing, developing, and scaling backend-heavy full-stack applications in production environments. I've strong expertise in distributed systems, system design, data structures & algorithms, RESTful APIs, microservices architecture, and database design. My work focuses on reliability, data consistency, and performance for systems that support real-time operational decision-making. I have owned critical backend components, debugged live production issues, and collaborated with data and operations teams to translate complex logic into stable software.

## TECHNICAL SKILLS

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**Languages:** JavaScript, TypeScript, Java, Scala

**Frameworks & Libraries:** React.js, Node.js, Express, Next.js, Spring Boot, Hibernate ORM, Akka

**Databases:** PostgreSQL, MongoDB

**Data & Messaging:** Apache Kafka (producers, consumers, data pipelines), WebSockets, REST API integration

**Cloud & DevOps:** Microservices, GitHub Actions, AWS, DigitalOcean, service monitoring

**Backend & Distributed Systems:** Microservices, event-driven systems, concurrency, multi-threading/multiprocessing, system integration, production debugging, system design

## EXPERIENCE

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### Senior Software Engineer

*LumberFi*

May 2026 – present

*Bengaluru, Karnataka, IN (On-Site)*

- At Lumber, I work closely with the core payroll team and own the end-to-end payroll synchronization platform, translating complex US payroll requirements—including time-sheets, pay periods, taxation, benefits, deductions, and reimbursements—into reliable payroll processing workflows and third-party provider integrations.
- Drive the evolution of the payroll enrichment and reconciliation layer, ensuring externally processed payroll data is accurately mapped back to internally computed earnings, deductions, and payment records for reporting, auditing, and operational visibility.
- Led the design and development of a high-throughput payroll auditing and anomaly detection system capable of analyzing 10K+ payrolls in under 900ms, enabling payroll life-cycle replay, business-rule validation, payroll diffing, and automated detection of inconsistencies before financial impact.
- Lead production issues analysis and resolution of payroll discrepancies by tracing data across distributed services, payroll calculations, integration boundaries, and external provider workflows.
- Proactively identify architectural bottlenecks, performance issues, and logical inconsistencies across the payroll ecosystem, delivering improvements that enhance system reliability, maintainability, and operational efficiency.

### Software Engineer

*Avlino India Pvt. Ltd.*

April 2025 – May 2026

*Bengaluru, Karnataka, IN (Hybrid)*

- Worked on a suite of microservices for optimization-driven engines using Scala, Akka, & Java that together form the complete yard management solution for container terminal operations. Ensured consistent and coordinated operation across all engines by managing integration points, execution order, and data dependencies.
- Developed the software powering a yard segregation engine that leveraged 7-day container flow forecasts, yard state, and terminal layout data to drive strategic yard allocation decisions, forecasting capacity requirements across import, export, and transshipment operations while improving terminal utilization.
- Developed backend services for a 48-hour planning engine that leveraged vessel inflow/outflow forecasts, yard state, terminal layout, travel-time constraints, and container exit sequencing to generate optimized container placement plans, determining precise yard locations (block, bay, stack, and tier) for efficient terminal operations.
- Developed the software for long-horizon strategy engine that leveraged 30-day vessel inflow/outflow forecasts, yard state, terminal layout, travel-time constraints, and container characteristics to optimize container allocation decisions across yard blocks and bays, aligning strategic planning with short-term operational execution.
- Contributed to big-data transformation layer of yard housekeeping engine software responsible for operationalizing outputs from allocation, planning, and strategy engines, translating yard reconfiguration recommendations into actionable instructions for Container Handling Equipments (CHE) to continuously optimize yard utilization and container flow.
- Monitored solution quality, debugged, and stabilized production systems to ensure reliable operation of mission-critical yard management workflows.

## Software Engineer

May 2022 – April 2025

*DeepThought EduTech Ventures Pvt. Ltd.*

*Hyderabad, Telangana, IN (Remote)*

- As one of the founding engineers, developed the organization's core technical infrastructure by understanding and extending an open-source codebase, and built products including the LMS, project management system, leave and invoice management, and SSO systems on top of it.
- Worked with one of DT's clients (ed-tech) for the development of LMS & Content Admin App for English enrichment across different proficiency levels of a user using Java (Spring Boot), Hibernate ORM, and React.js, and led the development of Node.js proxy services for third-party AI integrations.
- Collaborated closely with design teams to translate Figma prototypes into high-fidelity, reusable responsive UI components, ensuring design consistency across the application.
- Collaborated with the business team of one of DT's clients, a leading Indian pro-biotic manufacturer, to build automation and web scraping solutions for strategic market research. Engineered custom data processors and analyzers to extract, clean, transform, and standardize large-scale international import-export datasets from disparate sources, building end-to-end data engineering pipelines and generating analytical reports that enabled market-fit analysis and data-driven expansion decisions.
- Mentored a team of 10+ engineers for the innovation projects within the organization. A few projects that I oversaw include the development of a candidate onboarding system, a data infrastructure portal utilizing Kafka, and mass communication engines.
- Engaged in client communications, aligning technical implementations with business objectives, conducting release demos, and collaborating with external service providers to ensure smooth project execution.

## Software Development Intern

Sept 2021 – April 2022

*DeepThought EduTech Ventures Pvt. Ltd.*

*Hyderabad, Telangana, IN (Remote)*

- Worked as a Back-end focused full-stack software developer to develop LMS tools with MERN stack and other technologies that include NGINX, Mocha & Chai.js, Smarty, jQuery, Benchpress.js.
- Actively worked with the product team for product brainstorming, research, and development.
- Worked on data mining and developed some tools using web-scraping libraries like BS4 and selenium in Python, used by the teams for sales intelligence.

## EDUCATION

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**Margherita College, Dibrugarh University**

Margherita, Assam, IN

*B.Sc. with Computer Science*

*Aug. 2018 – 2021*