

Agnimitra Roy

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Skills

- **Programming Languages:** Golang, JavaScript, TypeScript, Python, Shell
- **Data Systems:** PostgreSQL, MongoDB, Kafka, RabbitMQ
- **Web Technologies:** REST, GraphQL, NodeJS
- **DevOps:** Docker, Nomad, Terraform
- **Cloud Platforms:** Amazon Web Services, Google Cloud Platform, Alibaba Cloud
- **Core Competencies:** Data Structures, Algorithms, Object-Oriented Principles & Patterns, System Design, Distributed Systems, Microservices

Professional Experience - 10+ years

HCL Software | **Lead Software Engineer 1** | **Jul 2025 - Present** | **Golang, GCP, Shell, Terraform**

- Designed a standardized GCP Cloud Run framework and automated workflow (local development, authentication, logging, testing, containerization, and deployment), enabling rapid delivery of cloud functions supporting geofencing in BigFix Mobile Client Management.

Salesforce | **Senior Member of Technical Staff** | **Nov 2021 - Jan 2025** | **Golang, Python, AWS, Shell, Terraform**

- Developed a system to keep cloud firewall rules synced with user-defined, cloud-agnostic configuration files. This mechanism ensured eventual consistency by computing deltas, splitting them into chunks, and then applying them idempotently. It enabled reliable processing of bulky configuration changes over multiple sync cycles. This approach effectively navigated numerous cloud provider limitations, including low API rate limits (10 requests/second), the absence of a config upload API, and constrained serverless function timeouts.
- Upgraded the proxy service's control plane to support more granular and precise access rule definitions. This enhancement allowed users to tailor access policies that activate only when incoming traffic metadata and certificate attributes match specific user-defined conditions.
- Refactored AWS Lambda functions for service monitoring, reducing execution time by 50%. This optimization enabled higher sampling frequency and provided room to accommodate future increases in code complexity.
- Created a command-line utility that empowered consumers of the proxy service to self-diagnose and resolve common issues. This tool reduced support request frequency, lessened troubleshooting efforts, and boosted engineering productivity.

Dkatalis Labs | **Senior Software Engineer** | **Oct 2020 - Oct 2021** | **NodeJS, Typescript, MongoDB, GraphQL**

- Identified a critical data integrity flaw in an external service and devised workarounds and corrective measures. These actions ensured customer onboarding could proceed without risking future compliance issues from inaccurate user data.
- Achieved a 10% performance improvement in the sign-up microservice by reducing the number of inter-service communications and optimizing data transfer volume per call.

F5 Networks | **Software Engineer 2/3** | **Sep 2018 - Oct 2020** | **NodeJS, Golang, PostgreSQL, Kafka, Nomad**

- Implemented a log aggregation and delivery platform that achieved 2x throughput over the legacy system it replaced. The lower resource footprint reduced running costs by 10%, while design and code quality improvements cut crash rates by 99%.
- Developed a role-based access control (RBAC) system that supported up to 4 levels of nested groups. Retrieved entity relationships from the database and modeled them as an in-memory graph, enabling rapid access rule evaluations (<0.1s for 100 entities). The new design had better performance and reliability while keeping API compatibility with the legacy system.
- Redesigned tests to enable concurrent execution, reducing total runtime by 75%. Optimized Docker images, cutting size by 50% and build time by 70%. These enhancements reduced CI/CD pipeline execution duration by 50%, accelerating iterations and improving developer productivity.

Ellucian | **Software Developer** | **Jul 2017 - Aug 2018** | **NodeJS, ReactJS, AWS, PostgreSQL**

- Built a real-time failure monitoring service that archived error logs, interpreted them, and notified platform users about errors in their jobs along with relevant troubleshooting tips. The serverless design choice helped attain scalability and availability goals cost-effectively.
- Created an end-to-end solution to manage metadata for over 10,000 dashboards. Designed the bulk edit API to auto-chunk large updates, retry on errors, tolerate partial failures, and ensure idempotency. Combined with transactional guarantees from the underlying database, this enabled a fast, robust, and reliable way to handle dashboard metadata. This capability greatly enhanced business analysts' productivity.

Kuvera.in | **Full Stack Developer** | **Mar 2016 - Apr 2017** | **NodeJS, ReactJS, PostgreSQL**

- Implemented a feature that intelligently selected mutual funds and quantities to sell from a portfolio, minimizing tax liabilities on sale proceeds. This utility reduced users' cognitive load during the selling process.
- Reduced data transfer to the sign-up page by 20% and optimized the eKYC flow by splitting it into concurrent and asynchronous background processes. These optimizations boosted UI performance and server efficiency.

Accenture | **Associate Software Engineer** | **Sep 2014 - Mar 2016** | **Java**

- Designed, developed, and maintained a web app to track time spent on repetitive manual tasks in a team of 15 engineers. The collected data helped uncover inefficiencies and areas for improvement.

Education

• **Georgia Institute of Technology** | **Aug 2025 - Present**

Online Master of Science, Computer Science

• **Indian Institute of Engineering Science and Technology, Shibpur** | **July 2010 - May 2014**

Bachelor of Engineering, Electronics & Telecommunication