

# Debopriyo Roy

Senior Software Developer – Cloud Pipelines | ML Infrastructure | DevOps | Terraform | AWS

[Canada](#) | +1 782-778-7084 | [debopriyo.inbox@gmail.com](mailto:debopriyo.inbox@gmail.com) | [Github](#) | [LinkedIN](#) | [debopriyo-roy.in](http://debopriyo-roy.in)

## About Me

Senior Software Developer with 3+ years of experience designing and operating AWS cloud pipelines for machine learning development, testing, and deployment using Terraform, Jenkins, and CI/CD automation. Strong background supporting analytics teams with secure, scalable infrastructure, monitoring and alerting, and IAM-based access control. Proficient in building Python/Java backend services, working with SQL and cloud data systems, and improving platform reliability through incident response and root-cause analysis.

## Education

### Memorial university Of Newfoundland

St John's, NL

Master's In Applied Science (Masc.): Computer Engineering. Cumulative Average: 76.2%

Jan 2023-Sept 2024

### Calcutta University (ALL INDIA GATE RANK: 583)

West Bengal, India

Master's In Technology in VLSI Design and Embedded System (Drop-out)

Sept 2021- Dec 2022

### West Bengal University of Technology

West Bengal, India

Bachelor's In Electronics & Communication Engineering. Cumulative Average: 75.2%

May 2012-May2016

## Work Experience

### Software Engineer (Volunteer) | Centre for Analytics, Informatics and Research (CAIR) @ MUN.

St John's, NL

Talent Opportunity Hub:

July 2025 – Present

- Built and deployed an AI-powered job-matching platform serving students and employers, improving onboarding efficiency through automated workflows.
- Designed multi-step onboarding with verification and admin approvals, reducing manual review effort by almost ~80% and improving data integrity.
- Implemented CI/CD pipelines with Docker/Podman and GitHub Actions, enabling consistent, repeatable deployments.
- Collaborated cross-functionally with academic stakeholders to translate requirements into production-ready cloud services.

### Co-Owner | Multi-sector Family Business

west Bengal, India

2011-2022

- Co-owner and primary decision-maker in a decade-old, high-volume family business serving **1,000+ daily customers** across gas stations, hotels, and heavy vehicle operations. Developed strong business acumen and cultivated advanced communication and customer-facing skills through hands-on business involvement beginning at age 19.
- Gained the ability to stay calm under pressure, resolve issues quickly, and ensure customers felt supported. Worked my way up through the business, from assisting with daily workflows and coordination to overseeing operations, before moving to Canada to pursue my master's degree.
- Remained actively involved in strategy, growth planning, and key operational decisions while co-owners oversee day-to-day operations.

### Customer Service Associate: Front Desk Staff | Loblaw's Inc.

St John's, NL

January, 2023 – Present

- Served as the initial point of contact for over **100 daily customers**, clearly communicating services and while identifying needs and resolving concerns.
- Handled objections and escalations professionally, using active listening and empathy to provide a pleasant customer experience to a varied audience.
- Managed front-desk activities, such as scheduling, check-ins, and visitor logs, to ensure correct documentation and efficient workflow execution.
- Collaborated with leadership to address problems while maintaining high performance in a fast-paced workplace with agility and multitasking.

### Bengal College of Polytechnic

West Bengal, India

Jan 2020-July 2020

Assistant Professor.

- Taught Analog and Digital Electronics and Control Systems Engineering to strengthen students' core concepts.
- Developed and delivered engaging lectures, lab sessions, and assessments to connect theoretical learning with real-world applications.
- Guided and mentored students in academic projects, encouraging critical thinking, creativity, and problem-solving in the field of electronics and control engineering.

### ASIC Design Engineer | Technical & Client-Facing Liaison | EMSIG Technologies Pvt Ltd.

Mumbai, India

August 2016-December 2019

- Partnered with defense and biomedical clients to translate complex technical requirements into clear system specifications and delivery plans.
- Supported pre-sales and solution design by producing technical documentation, solution briefs, and client-facing demos.
- Acted as a bridge between engineering teams and stakeholders, improving delivery clarity and long-term client engagement.

## Skills

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Cloud Platforms	AWS(EC2,ECS,EKS,ELB,Lambda,RDS,S3,CloudFront,IAM,CloudWatch,EventBridge,CloudFormation, API Gateway),AWS Step Function.
Automation & Unix	Terraform, Ansible,Docker, Kubernetes, DevContainer, CI/CD (GitHub Actions, Jenkins, CodePipeline, CodeBuild), Linux.
Database Administration	Postgres SQL,DynamoDb, Glue, Athena, SQLite, , Redshift Spectrum,ETL pipelines,Data Ingestion, Data Normalization.
Programming languages	Python, Java, SQL, Bash/Shell Scripting, REST APIs, YAML, JSON.
Monitoring, Observability	AWS X-Ray, Cloudwatch metrics & Logs, Prometheus, Grafana.
Web Frameworks & Backend	Spring Boot, Django, HTMX, Bootstrap 5, JavaScript,LangChain,LangGraph.
Machine learning platforms	Amazon SageMaker, SageMaker Pipelines, PyTorch, TensorFlow,EMR, XGBoost, Amazon Bedrock, Model training, deployment & ML workflow automation.
Distributed System & Security	Scalable system design, Fault tolerance, IAM least privilege, Secure Cloud Architectures.

## Projects

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### 1 .AWS Infrastructure Automation with Terraform CLI & Terraform Cloud.

**Description:** Implemented reusable Terraform modules, workspaces, and remote state (S3 + DynamoDB) to provision secure AWS infrastructure consistently across environments. Applied policy-as-code controls and automated provisioning workflows to improve deployment repeatability, strengthen governance, and reduce infrastructure setup time by ~70%.

**Tools Used:** AWS (VPC, EC2, S3, IAM, Lambda, Glue, CloudWatch), Terraform CLI & Terraform Cloud, IaC, Sentinel (Policy as Code), Remote State (S3 + DynamoDB), CI/CD Automation.

### 2. End-to-End CI/CD & observability platform for Microservices (AWS).

**Description:** Built production-grade CI/CD pipelines using Jenkins and Terraform to automate build, test, security scanning, and deployment of containerized microservices on AWS (EKS/ECR/EC2). Integrated SonarQube quality gates, CloudWatch logging, and Prometheus/Grafana monitoring to improve deployment reliability, enforce standards, and reduce manual release effort by ~80%.

**Tools Used:** AWS (EKS, ECS, EC2, ECR, S3, IAM, CloudWatch), Terraform (IaC), Jenkins, Docker, Git/GitHub, Maven, SonarQube, Prometheus, Grafana.

### 3. AI-Powered Customer Support Agent using Amazon Bedrock AgentCore.

**Description:** Built a production ready AI customer support agent using Amazon Bedrock AgentCore enabling automated query handling, intent-based response & tool-driven action. Operationalize the workflow with logging,IAM guardrails & cloudWatch monitoring for production readiness.

**Tools Used:** Amazon Bedrock,Bedrock AgentCore,LangChain,LangGraph,Python,IAM Policies,Cloudwatch.

### 4. GenAI LinkedIn Post generator using Amazon Bedrock and LangChain.

**Description:** Built a GenAI LinkedIn post Generator using Amazon Bedrock and langChain, enabling customizable,length, & topic-based content generation. Developed a Streamlit UI for real-time post creation, added output validation limits (words/characters) and ensuring secure scalable inference with IAM & cloudwatch monitoring.

**Tools used:** Amazon Bedrock,Python,LangChain,Streamlit,IAM Policies,CloudWatch,NLP, Text Generation.

### 5. Event-driven AWS Serverless ETL Pipelines.

**Description:** Developed an event-driven serverless ETL pipeline where S3 uploads triggered AWS Lambda to clean, normalize, and transform JSON into Parquet for scalable analytics. Automated schema discovery using AWS Glue Crawlers and enabled fast querying through Athena, with CloudWatch dashboards and alarms for monitoring pipeline health and reliability.

**Tool Used:** AWS S3, AWS Lambda, AWS Glue (Crawlers), AWS Athena, CloudWatch,Parquet,Json.

### 6. Personal Portfolio Website ([debopriyo-roy.in](http://debopriyo-roy.in)).

**Description:** Built a responsive personal portfolio website ([debopriyo-roy.in](http://debopriyo-roy.in)) using HTML, CSS, JavaScript, and PHP (Composer) to showcase my profile and projects. Implemented a clean, mobile-friendly UI with a functional contact form to enable direct communication and improve professional visibility.

**Tools used:** HTML, CSS, PHP,Composer,Javascript.

## Certifications

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[AWS Certified Solutions Architect – Associate.](#) | [HashiCorp Certified: Terraform Associate \(003\).](#)

[Terraform Associate \(003\) — HashiCorp Certification,Udemy](#) | [AWS Machine Learning Engineer Associate, Udemy](#)