Debopriyo Roy

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Education

West Bengal University of Technology	West Bengal, India
Bachelor's In Electronics & Communication Engineering. Cumulative Average: 75.2%	May 2012-May2016
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
Memorial university Of Newfoundland	St John's, NL
Master's In Applied Science (Masc.): Computer Engineering. Cumulative Average: 76.2%	Jan 2023-Sept 2024

Work Experience

Centre for Analytics, Informatics and Research (CAIR) @ MUN. — St John's, NL
Software Engineer (Volunteer). — July 2025 - Present

Talent Opportunity Hub: Collaborated with students and employers, gathering requirements and explaining technical workflows based AI-powered job-matching portal that connects students with academic and industry opportunities.

- Built multi-step student & employer onboarding with verification and admin approval workflows.
- Integrated AI-driven project–student matching using skills tagging and dynamic dashboards.
- Designed a responsive UI with Bootstrap 5 + HTMX for seamless user experience.
- Implemented full DevOps enablement via Docker/Podman containers, devcontainer, and CI/CD workflows.
- Stack: Python 3.12, Django, HTMX, Bootstrap 5, Docker, Podman, uv, GitHub Action.

Multi-sector Family Business — west Bengal, India
Co-Owner. — 2011-Present

- 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.
- Remain actively involved in strategy, growth planning, and key operational decisions while co-owners oversee day-to-day operations.

Loblaw's Inc. — St John's, NL
Customer Service Associate: Front Desk Staff. — January, 2023 – Present

- Served as the initial point of contact for over **100 daily customers**, clearly communicating services and answering questions 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.
- Collaborate with leadership to address problems while maintaining high performance in a fast paced workplace with agility and multitasking.

EMSIG Technologies Pvt Ltd. — Mumbai, India
ASIC Design Engineer | Technical & Client-Facing Liaison. — Aug 2016-Dec 2019

- Supported Client engagement and early need discovery for defense and Biomedical R&D projects with IIT Kharagpur and DRDO, converting complex technical requirements into simple projects specification and engineering matching solution with stakeholder's goals.
- Enabled pre-sales success by partnering with senior leadership to prepare technical documentation, solution briefs, and demo materials that clearly communicated product value, strengthened client trust, and improved decision-maker buy-in.
- Facilitated cross-functional collaboration with academic, defense, and engineering team by enabling technical talks, coordinating problem-solving and monitoring junior engineers, resulting in smooth execution, good connections and future engagements opportunities.

Skills

Cloud	EC2,S3,RDS,Lambda,CloudFront,Cloudwatch,IAM,WAF,EventBridge,SNS,CodePipeline,CodeBuild
DevOps	Docker, Podman, DevContainer,GitHub,GitHub Actions, CI/CD, Jenkins, Prometheus
Architecture & Networking	Amazon Elastic Load Balancer, Auto Scaling Group, AWS X-Ray
Database Management	DynamoDb, Glue, Athena, SQLlite, Postgres, Redshift Spectrum
Programming languages	Python, SQL, GitBash, Verilog, MATLAB, YAML/HCL, Java.
Machine Learning & AI	Amazon SageMaker, PyTorch, TensorFlow, XGBoost, DeepAR, SageMaker Pipelines, AWS CodePipeline, AWS CodeBuild
Data Engineering	Data normalization, data ingestion, data migration, ETL pipelines
Data Visualization & Analytics	Amazon QuickSight, Streamlit, AmazonECS/AWS Fargate, Matplotlib
Frameworks & Tools	Spring Boot, Django, HTMX, Bootstrap 5, JavaScript, Simulink
Programming Languages	Java, Python, SQL, Bash/Shell Scripting, Verilog, MATLAB, YAML/HCL
Hardware & EDA Tools	Cadence Virtuoso, Xilinx, LTSpice, FPGA Design, ASIC/VLSI Design, ADC/DAC Modules

Projects

1 .AWS Infrastructure Automation with Terraform CLI & Terraform Cloud.
Designed and automated scalable AWS infrastructure using Terraform CLI and Terraform Cloud, building reusable modules for VPCs, subnets, NAT Gateways, EC2, S3, IAM, Lambda, and Glue. Implemented secure IaC workflows with remote state, workspaces, variable sets, and Sentinel policies to ensure consistent deployments. Improved provisioning reliability using version pinning, S3 + DynamoDB state locking, and automated plan/apply pipelines. Standardized module structures for dev/stage/prod environments and added CloudWatch dashboards, logs, and alarms to ensure full visibility and stable operations.

2. End-to-End Enterprise DevOps CI/CD Pipeline on AWS.
Designed and implemented an enterprise-grade, end-to-end DevOps CI/CD pipeline on AWS, automating real-world production workflows from code commit to ECS-based cloud deployment. Integrated source control, automated builds, static code quality gates, artifact repositories, containerization, infrastructure provisioning, and configuration management, following DevOps best practices, Infrastructure as Code (IaC) principles, and security-aware quality controls to deliver reliable, scalable, and automated cloud-native applications.

3. Event-Driven AWS Serverless ETL Pipeline.
Built a fully serverless ETL pipeline on AWS using S3, Lambda, Glue, and Athena to automate data ingestion and analytics. Set up an event-driven process where uploading JSON files to S3 triggered Lambda to clean, normalize, flatten, and convert the data into Parquet for a centralized Data Lake. Used Glue Crawlers for automatic schema detection and enabled fast, low-cost queries with Athena. Added S3 event notifications, Lambda concurrency controls, and fault-tolerant processing to support high-volume workloads. Monitored the entire pipeline with CloudWatch dashboards and alarms to ensure reliable, low-maintenance operation.

Certifications

AWS Certified Solutions Architect – Associate. | HashiCorp Certified: Terraform Associate (003).
Terraform Associate (003) — HashiCorp Certification,Udemy| AWS Machine Learning Engineer Associate, Udemy