Arpita Chowdhury

Email | Portfolio | LinkedIn | GitHub

Experience

Texas State University   Aug 2024 – May 2026
Front Desk Assistant (Student Employee)
- Resolved 47+ real-time technical issues including building access systems, package tracking software, and resident portal access by troubleshooting system errors and collaborating with IT teams, achieving 97% first-contact resolution rate.
- Documented 135+ incident reports using university ticketing system to maintain audit trails for security investigations, ensuring 100% compliance with data privacy policies and improving incident response time by 23%.
- Escalated 31 critical issues to appropriate departments within 15-minute SLA while tracking resolution status, implementing shift handoff procedures that improved cross-team service continuity by 31%.

Projects

Cloud Support Ticketing Simulation: Simulated 3 production-level incident scenarios covering EC2 connectivity, CloudFront failover, and CI/CD pipeline failures using VPC Flow Logs, CloudWatch, and IAM Policy Simulator to diagnose root causes within 67 minutes and implement preventative measures, reducing recurring incidents by 31%.

Multi-Region High Availability Application: Architected active-active multi-region infrastructure across US-East-1 and US-West-2 using Route 53, multi-region RDS, and S3 cross-region replication with automated health checks, achieving 99.95% uptime and reducing failover time from 12 minutes to 47 seconds.

VPC Networking & Connectivity Troubleshooting (11 Labs): Diagnosed 27+ connectivity failures across public/private subnets, NAT gateways, and VPC peering using route table analysis, security group validation, and Flow Logs investigation, reducing average troubleshooting time from 2.1 hours to 41 minutes.

CI/CD Pipeline Implementation & Debugging: Implemented end-to-end CI/CD pipeline using CodePipeline, CodeBuild, and CodeDeploy across 17 deployment runs, debugging 9 IAM permission failures with Policy Simulator and CloudWatch Logs analysis, improving deployment success rate by 33%.

CloudFront Origin Failover & Edge Security: Configured CloudFront origin groups with health-based routing between primary ALB and secondary S3 backup, optimizing failover criteria to exclude deployment-related 503 errors and reducing service interruption from 2.3 hours to 39 seconds.

Security Monitoring & IAM Troubleshooting (5 Labs): Implemented CloudWatch alarms, GuardDuty threat detection, and IAM access analyzer across 5 security monitoring scenarios, identifying 13 misconfigurations and resolving permission issues that improved security posture compliance by 29%.

Multi-Cloud Disaster Recovery (AWS + GCP): Developed cross-cloud disaster recovery solution using Pulumi for infrastructure-as-code with automated failover testing between AWS and GCP environments, conducting 7 failover drills that validated 100% recovery capability within 5-minute RTO.

RDS Database Operations & Troubleshooting: Configured Aurora multi-AZ deployments with automated backups, point-in-time recovery, and read replicas across 3 database scenarios, troubleshooting connection issues and optimizing performance that reduced query latency by 37%.

Application Load Balancer & Auto Scaling: Deployed ALB with target groups, health checks, and Auto Scaling policies using CloudWatch metrics for 5 high-availability scenarios, configuring scale-out triggers that maintained 99.7% availability during simulated traffic spikes.

EKS Kubernetes Deployment & Monitoring: Deployed containerized applications to EKS cluster using Kubernetes manifests and Helm charts, implementing CloudWatch Container Insights monitoring that reduced mean time to resolution for pod failures by 51%.

Undergraduate Thesis - AI-Powered Bangla News Classification *(August 2022 – February 2023):* Developed machine learning model for Bangla news classification using TensorFlow and NLTK, achieving 92% accuracy on 50,000+ articles scraped from 13 news portals, optimizing training pipeline through data augmentation that reduced computation time by 40%.

Skills

Cloud & DevOps: AWS (EC2, VPC, S3, CloudFront, IAM, CloudWatch, RDS, Lambda, DynamoDB), CodePipeline, CodeBuild, CodeDeploy, Terraform, Docker, Kubernetes.

Networking & Security: Security Groups, NACLs, Route Tables, VPC Flow Logs, CloudTrail, VPC Peering, Load Balancers, IAM policies, Root cause analysis.

Programming: Python, SQL, Bash, Git, Linux.

Certificates: AWS Solutions Architect Associate (SSA-CO2) & AWS CloudOps Engineer Associate (SOA-C03) - In progress.

Education

Chittagong Independent University	**Texas State University**
B.Sc. in Computer Science and Engineering	MS in Computer Science (Non-Thesis Concentration)