

# MONIL SHAH

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## SUMMARY

AWS Certified Solutions Architect with experience in building event-driven serverless pipelines and ETL in BigQuery across GCP and AWS. Skilled in CI/CD, monitoring, data migration, and performance optimization to deliver reliable, analytics-ready systems.

## TECHNICAL SKILLS

- **Programming Languages:** Python, JavaScript, C, Java, R, Bash.
- **Databases and DevOps tools:** PostGres, SQL, RDBMS, Docker, AWS CloudFormation, Kubernetes, Terraform, AWS Lambda.
- **Cloud Platforms:** AWS (EC2, S3, IAM, VPC, CloudWatch), AWS CLI, Linux, Google Cloud, Azure(basic).
- **Libraries & Tools:** Pandas, NumPy, FastAPI, Git, GitHub Actions, Wireshark, Powershell.

## WORK EXPERIENCE

- Cloud & Data Engineering Intern** — The Commons XR, San Diego, CA Aug 2025 – Present
- Built a fully automated serverless pipeline using **GCP Eventarc** → **Cloud Run** → **BigQuery** to processes new bronze-layer data into refined datasets, reducing update time from hours to seconds and eliminating manual intervention.
  - Designed **ETL** SQL transformations aligned with **Medallion Architecture (bronze → silver → gold)**, cleaning and structuring raw data into business-ready datasets and ensuring analytics team has fast, reliable access to accurate insights.
  - Migrated legacy **Postgres** and **SQL Server** databases to BigQuery using Compute Engine, optimizing ingestion with concurrency and compute scaling to improve migration speed by **92%**.
  - Performed post-migration **data cleanup and schema alignment**, mapping legacy tables/columns to the current architecture to improve dataset consistency for analytics.
  - Implemented a parallelized **LLM reporting pipeline** using **Vertex AI** and **Cloud Run Jobs**, generating participant reports concurrently and reducing report turnaround time by **75%**.
- Teaching Assistant** — Illinois Tech, Chicago, IL Jan 2024 - May 2025
- Assisted in teaching ITM 705 (Microsoft OS), ITM 706 (Linux OS), ITM 707 (OS Security), and ITMO 540 (Data Networks).
  - Handled incidents and escalated system issues using structured ticketing system (Salesforce), contributing to root cause analysis and issue resolution.
  - Supported students through office hours and 1:1 troubleshooting for lab and network simulation issues, while grading assignments and improving engagement with clear feedback and lab instructions.
- DevOps Engineer** Bliss Web Solutions, India June 2022 - May 2023
- Deployed client websites on **EC2 instances** using **shell scripts**, ensuring consistent, repeatable builds.
  - Configured and maintained **CI/CD pipelines** with GitHub Actions and Bash scripts while establishing **CloudWatch** alarms and log alerts, reducing manual deploy steps from five to one and preventing unplanned downtime.
  - Automated nightly MySQL backups with a **Bash script**, saving **80%** of manual effort.
  - Collaborated with developers to troubleshoot web-app errors, using logs and simple metrics to resolve **90%** of incidents within the first hour.

## PROJECTS

### AWS Cloud Resume Challenge

- Built and deployed a serverless cloud-resume website using S3, CloudFront, Route 53, Lambda, and DynamoDB with a live visitor counter integrated via Python-based Lambda functions.
- Automated frontend deployment with Terraform for Infrastructure-as-Code and GitHub Actions for CI/CD.

### Cloud Infrastructure Automation

- Automated the deployment and teardown of cloud-native environments on AWS using Bash, AWS CLI, and Python (Boto3).
- Created and managed EC2 instances, RDS databases, S3 buckets, and SNS topics through infrastructure-as-code scripts.
- Developed Python-based validation scripts to verify resource creation, application health, and environment cleanup.

### Income Inequality Analysis using R

- Preprocessed NLSY97 data and applied hypothesis testing and regression modeling to analyze income disparities.
- Built statistical models in R to examine the impact of gender, education, and background on income levels and created a structured report in R Markdown with visualizations and findings.

## EDUCATION

### Illinois Institute of Technology

Master's in Information Technology and Management, GPA: 3.8/4.0

Chicago, IL

May 2025

### GLS University

Post Graduate Diploma in Computer Application, GPA: 3.7/4.0

India

May 2023

### Gujarat University

Bachelor of Science in Physics (B.Sc), GPA: 3.6/4.0

India

May 2022

## HONORS & ACHIEVEMENTS

- AWS Certified Solutions Architect, AWS Certified Cloud Practitioner
- Bronze Honor (Top 20%) in the International Astronomy and Astrophysics Competition