

# MADHAV KUMAR

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## TECHNICAL SKILLS

### Core Skills:

Python, Java, AWS (Lambda, S3, EC2, RDS, DynamoDB, SQS, SNS, CloudWatch, IAM), Docker, Kubernetes, PostgreSQL, ClickHouse, GitLab CI/CD, Git

### Additional Experience:

Spring Boot, MySQL, MongoDB, REST APIs, Microservices, Linux, Jira, Confluence

## EXPERIENCE

### Nielsen – Software Development Engineer Intern

Mar 2025 - Present

- Engineered an automation framework for AWS Lambda validation using Python + CloudWatch, eliminating repetitive log checks and cutting manual testing time by ~60%.
- Integrated automated validation into CI/CD pipelines enabling both environment-based manual runs and default UAT auto-runs on every Lambda update.
- Implemented Lambda + Docker media workflow to compress WAV to FLAC (~70% smaller), reducing S3 storage footprint across regions.
- Implemented PostgreSQL-driven asset evaluation logic and published structured events across SNS → SQS pipelines.
- Enhanced asset-tracking Lambdas to generate real-time SQS events and validated 1000s of ClickHouse ingested records for accuracy.
- Designed an automated web-scraping framework for Amazon Prime Video metadata, running twice daily and collecting 1000–1500 episodes record per cycle to support internal data workflows.
- Analyzed large-scale S3 digital footprints through Python scripts to detect asset metadata gaps.
- Self-trained across AWS (EC2, DynamoDB), Docker, GitLab CI/CD, and Kubernetes (deployments, services, configmaps, secrets, sidecars).

## PROJECTS

### Kubernetes Logging System (Personal Project)

- Built a Kubernetes-based sidecar system using ClickHouse and Fluentd for log collection and analysis.
- Deployed locally on Minikube to simulate real-world logging and observability workflows.

### Sentiment Analysis API (Spring Boot + Java NLP)

- Developed a Spring Boot application that analyzes user input text using Stanford CoreNLP to detect sentiment.
- Designed a simple REST API for real-time sentiment classification and response delivery.

### Task Scheduler App (Android – Kotlin + SQLite)

- Built an efficient task management system using SQLite for data storage. Implemented CRUD operations (Create, Read, Update, Delete) with search functionality. Ensured smooth and optimized user interaction with a clean and intuitive UI.

## CERTIFICATES

### Application Development in Java

- Gained practical knowledge in Java GUI development, JDBC for database management, and Java networking.
- Applied these skills in projects to improve application design and functionality.

## EDUCATION

Lovely Professional University

Jalandhar, Punjab, India

Bachelor of Technology-Computer Science & Engineering

August 2022-Present

CGPA: 8.76

Litera Valley School

Patna, Bihar, India

Senior secondary education (PCM)

2019 - 2021

Percentage: 81.00

PTJM Saraswati Vidya Mandir

Rajgir, Bihar, India

Secondary education (10th)

2018 - 2019

Percentage: 92.00

## EXTRA-CURRICULAR ACTIVITIES

Inter school sports participation in volleyball