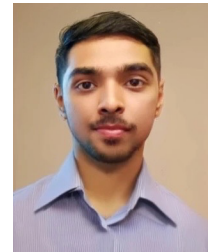# Dhiraj Singh

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Github: github.com/DhirajSingh

## EDUCATION

- **Sister Nivedita University**                                                     Kolkata, India
  *Bachelor of Technology in Computer Science Engineering*                 *Nov 2021 - June 2025*
  **Courses:** *Operating Systems, Data Structures, Analysis of Algorithms, Artificial Intelligence, Machine Learning, Networking, Databases*

- **East West Model School**                                                          Bardhaman
  *Indian School Certificate (ISC), Class 12 – Science*                              *2021*
  **Subjects:** *Physics, Chemistry, Mathematics*

- *Indian Certificate of Secondary Education (ICSE), Class 10*                        *2019*

## SKILLS SUMMARY

- **Programming Languages**: Python, Java, Bash, C++, Shell Scripting
- **Cloud Platforms**: AWS (EC2, S3, Lambda, CloudFormation, API Gateway, VPC), GCP (GKE, Cloud Functions, IAM)
- **Databases**: MySQL, PostgreSQL, NoSQL (MongoDB, DynamoDB)
- **DevOps Tools**: CI/CD (Jenkins, GitHub Actions), Terraform, Docker, Kubernetes (EKS, GKE), Ansible, ArgoCD
- **Networking**: VPC Peering, Load Balancers (ALB/ELB), Subnetting, NAT Gateways, CloudFront CDN, VPN
- **Soft Skills**: Code Reviews, Documentation, Collaboration, Communication, Problem-Solving

## EXPERIENCE

- **DevOps Engineer**                                                                 On-site
  *Heva AI*                                                                   *Aug 2024 – Feb 2025*
  - Developed REST APIs and backend services using Python (FastAPI), integrating AWS Lambda and API Gateway. Automated Kubernetes (EKS, GKE) deployments with Terraform, reducing manual intervention by 50%. Optimized cloud monitoring with Prometheus and Grafana, cutting incident response time by 40%, while actively collaborating with senior engineers and adapting to new cloud technologies.

- **DevOps / Cloud Engineer**                                                         Remote
  *Freelance*                                                                 *Sep 2024 – Dec 2024*
  - Processed 80M+ image frames from 500,000+ videos, optimizing 6TB+ data storage in S3 with lifecycle policies and Transfer Acceleration. Reduced cloud costs by 57% using AWS Cost Anomaly Detection and budget alerts, identifying sudden usage spikes in real-time. Designed scalable, automated cloud solutions for startups, ensuring cost efficiency and performance optimization.

## PROJECTS

- **Scalable Cloud-Based API System**: Designed a **RESTful API service** using Python and FastAPI, deployed on AWS Lambda and API Gateway for handling high-throughput requests efficiently.
- **Automated CI/CD Pipeline for Microservices**: Developed a **Jenkins-based CI/CD pipeline** to automate deployment of containerized microservices on Kubernetes (EKS, GKE), reducing manual effort by **60%**.
- **Database Optimization Engine**: Implemented an **SQL query optimizer** in Python, integrating indexing and caching mechanisms to improve database query performance by **40%**.
- **Full-Stack Web Application Deployment**: Built and deployed a **scalable web application** using React, Flask, and PostgreSQL, ensuring high availability with AWS ECS and Load Balancers.
- **Bank Management System (C++)**: Developed a **C++ OOP-based banking system** to manage customer accounts, supporting account creation, updating, searching, deposits, and withdrawals.

## OPEN SOURCE CONTRIBUTION

- **Terraform AWS Provider**: Contributed to HashiCorp's **Terraform AWS Provider**, improving EventBridge Kafka documentation. Enhancements successfully **merged** and live on the Terraform documentation site. **GitHub Link**

## CERTIFICATIONS

- **JPMorgan Chase Software Engineering Virtual Experience**: Completed a hands-on virtual program focused on **backend API development**, data processing, and software engineering best practices.
- **Goldman Sachs Engineering Virtual Experience**: Gained practical experience in **cryptography, password security, and authentication mechanisms**, enhancing secure software development skills.
- **Walmart Advanced Software Engineering Virtual Experience**: Worked on **large-scale software engineering challenges**, optimizing backend systems for high-performance applications in enterprise environments.