

# Lakshay Sangwan

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## WORK EXPERIENCE

### DIGII (COLLPOLL) | PRODUCT ENGINEER 2

Remote (Bengaluru, Karnataka) | Nov 2023 – Present

- Architected **multi-tenant federation hub** with centralized link registry using **union-find transitive closure** and HMAC-signed JWT authentication for secure cross-tenant data sharing across institutions.
- Designed **selfie-based attendance system** with server-side geofencing, multi-layer timezone resolution (geofence / IP / app fallback), and anti-spoofing validation for biometric verification.
- Implemented **FF1 format-preserving encryption** for ID obfuscation, ensuring data privacy while maintaining referential integrity and query compatibility across distributed systems.
- Led **AWS infrastructure optimization**: audited 15+ ElastiCache clusters, upgraded Redis 6.2.6 to 7.1.0, right-sized instances based on CPU/memory metrics; audited CloudFront distributions, disabled low-traffic endpoints – delivering **\$3,400+/year cost savings**.
- Built reusable platform components: global **controller advices** for exception handling, test frameworks for services and MySQL stored procedures, and centralized obfuscation utilities adopted org-wide.
- Owned **Staff Attendance module** end-to-end: refactored legacy codebase, implemented real-time sync via ElasticSearch replacing day-old Athena batch reports, built HR reports.
- Developed **Digital Student Passport** with QR-based verification flow and **Support Help Centre** with FAQ system.
- Fixed **multi-tenant MySQL stored procedures** for edge cases in tenant isolation; authored automated dev environment setup scripts for team onboarding.
- Perform **cross-level code reviews** for peers and seniors, author HLDs reviewed by Tech Leads, debug production incidents with detailed RCA documentation.

### AUTHBRIDGE | SOFTWARE ENGINEER

Gurgaon, Haryana | Jun 2021 – Nov 2023

- Designed **automated data inflow system** for operations team, reducing developer intervention to zero, increasing web scraping throughput by **5x**, and cutting compute requirements from enterprise servers to consumer-grade hardware.
- Built core verification microservices for **PAN and Aadhaar verification**, critical dependencies for flagship background verification products processing high-volume identity checks.
- Developed internal tools for data extraction, validation pipelines, and batch processing workflows for operations efficiency.

## PERSONAL PROJECTS

### DOCUKIT

CLOUDFLARE PAGES, REACT (AI-ASSISTED), PDF.JS

Privacy-first document toolkit for PDF/image processing – merge, split, compress, convert – all processed **client-side with zero server uploads**. Owned product direction, security design, and SEO optimization.

### HABITFLOW

CLOUDFLARE WORKERS, D1, HONO, REACT (AI-ASSISTED)

Serverless habit tracking app on **Cloudflare edge stack**. Designed architecture, database schema, and API contracts; frontend built with AI assistance.

## EDUCATION

### B.Tech. in Computer Science Engineering

Kurukshetra, Haryana | May 2021

UIET, KURUKSHETRA UNIVERSITY

## SKILLS

**Languages:** Java, JavaScript, SQL, HTML/CSS

**Backend:** Spring Boot, Hibernate (JPA), REST APIs, Microservices

**Frontend:** AngularJS, React (familiar)

**Databases:** MySQL, Redis/ElastiCache, ElasticSearch

**Cloud & Infra:** AWS (EC2, SQS, Athena, CloudFront, ALB, ElastiCache), Cloudflare (Workers, Pages, D1)

**Tools:** Git, Linux, Bash scripting