

# Mannatpreet Singh Khurana

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## WORK EXPERIENCE

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### Software Engineer | Stikbook INC

April 2026 – Present

- Instrumented backend services with **AWS CloudWatch alarms and dashboards** and **Grafana**; act as a **first responder for production incidents** — triaging alerts, debugging root causes across microservices, and shipping fixes to restore service health.
- Built a **geo-based offers feature** end-to-end — users discover nearby offers on an interactive map, claim and redeem via dynamically generated **QR codes**; architected backend with **Spring Boot** and **PostgreSQL** with geospatial indexing for low-latency proximity queries.
- Engineered an **AI content moderation service** in **Python** using **multi-threading**, **GPT-4o** for text/image moderation, and **Gemini** audio model for audio content, filtering harmful content asynchronously without blocking user-facing upload flows.

### Software Developer Intern | Stikbook INC

January 2026 – April 2026

- Built a **fault-tolerant media upload pipeline** using **S3 multipart upload**, **ECS**, **Lambda**, and **CloudFront**, **reducing upload failures by ~30%** and cutting AWS costs by **\$1,000/month**.
- Designed and built core social features including **feed APIs** and like/unlike interactions using **Spring Boot microservices**, **Redis**, and **PostgreSQL**, serving ~10K users in production.
- Engineered a **user rewards microservice** integrated across multiple backend services, leveraging **Redis caching** to manage reward state and support reliable low-latency processing.

## PROJECTS

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### CodeQuest | *Next.js, TypeScript, Express, Redis, PostgreSQL, Docker, Judge0, CI/CD* | [Live](#)

- Designed a **scalable code execution pipeline** (API → **Redis queue** → worker → Judge0 → PostgreSQL) to decouple submission intake from execution, enabling reliable concurrent processing and real-time result streaming.
- Hardened production reliability** with **rate limiting**, **Zod schema validation**, health checks, integration tests, and Prisma migrations; exposed clean endpoints (/run, /submit, /status) via a **CI/CD-enabled Turborepo monorepo**.

### Paybuddy | *Next.js, TypeScript, Prisma, PostgreSQL, Docker, CI/CD, Turborepo* | [Repo](#)

- Developed a **wallet application** supporting bank onramp flows via a mock bank server with **webhook-based transaction confirmation**, ensuring eventual consistency for async payment events.
- Built a merchant portal for wallet payments, inventory, discounts, and sales monitoring in a **Turborepo monorepo**; streamlined dev and deploy with **Docker** and **CI/CD pipelines**.

### Stylera | *React Native, Java, TypeScript, Python, Microservices, PostgreSQL, Docker*

- Built a **wardrobe recommendation platform** with a React Native frontend and a **polyglot microservices backend** — Java services for user/wardrobe data and a **Python ML service** for outfit recommendations; containerized all services with **Docker** and managed data consistency via separate **PostgreSQL** schemas per service.

## TECHNICAL SKILLS

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**Languages:** TypeScript, Java, Python, SQL, C++

**Cloud & DevOps:** AWS (ECS, ECR, Lambda, S3, CloudFront, EventBridge, SES), Docker, Kubernetes, CI/CD

**Observability & Reliability:** AWS CloudWatch (alarms, dashboards), Grafana, incident response, production debugging

**Backend & Systems:** Spring Boot, Node.js, Express, Microservices, REST APIs, Event-driven Architecture

**Databases & Messaging:** PostgreSQL, Redis, Kafka, SQS, Cassandra

**Frontend & Fullstack:** React, Next.js, React Native, HTML/CSS, GraphQL

**AI & ML:** GPT-4o, Gemini Audio, LLM Integration, Multi-threaded Inference Pipelines

## EDUCATION

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### Seneca Polytechnic | Computer Programming and Analysis – Advanced Diploma | **GPA: 3.9**

2023 – 2026

- Relevant Coursework:** Data Structures & Algorithms, Operating Systems, Cloud Computing (AWS), OOP, Database Management, Software Testing, Web Development