

Jagdeep Singh

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EXPERIENCE

Backend Developer – Aztlan

Hyderabad | Apr 2025 – Present

LogTrim – High-Throughput Log Processing Pipeline

- **Tech:** Rust (Tokio, Axum), Fluvio, Fluent Bit, PostgreSQL, Kubernetes, OPA Gatekeeper, GCP Secret CSI
- **Architected** an end-to-end log processing pipeline in **Rust (Tokio, Axum)** using Fluvio for distributed streaming, processing **20,000+ EPS** and millions of logs daily across 5 integrated applications
- Reduced **Splunk ingestion costs by ~40%** through intelligent real-time deduplication and aggregation at the pipeline level, eliminating redundant log volume before forwarding
- Engineered a **zero-downtime hot-reload** mechanism using PostgreSQL LISTEN/NOTIFY and thread-safe memory swapping, eliminating all restart-based config updates
- Deployed **Fluent Bit sidecars** on Kubernetes with OPA Gatekeeper policies and GCP Secret CSI for secure, policy-compliant log collection across multi-tenant environments

UWS – Document Intelligence Platform (Client Project)

- **Tech:** Python, FastAPI, PostgreSQL, asyncpg, GCS, Gemini API
- Built the **AI integration layer and backend** for a document intelligence platform (FastAPI, PostgreSQL, asyncpg, GCS, Gemini) that automated structured field extraction from identity and financial documents (Aadhaar, PAN, US IDs, payslips, bank statements)
- Implemented a **policy engine** that evaluated extracted data against compliance rules and performed cross-document validation (e.g., salary consistency across payslips and bank statements) to flag discrepancies

Core V1 – AI Governance Platform

- **Tech:** Python, FastAPI, SurrealDB
- Built backend for an **AI governance platform** enabling teams to define and enforce government compliance policies (NIST, ISO) over AI models and datasets
- Developed **use case management system** where models and datasets could be grouped, governed via policy questionnaires, and evaluated against uploaded compliance documents

Infrastructure & Internal Tooling

- **Tech:** Proxmox, Coolify, Cloudflare Tunnels, Authentik, Docker
- Set up and manage **bare metal server infrastructure** (Proxmox, Coolify) with Cloudflare Tunnels for secure external access to internal services
- Deployed and maintain **10+ internal services** — GlitchTip, Uptime Kuma, Outline, Docmost, Postiz, Papra, Unleash, Homepage — with monitoring and issue resolution

Backend Engineering Intern – Sequoia Consulting Group

Bangalore | Apr 2024 – Mar 2025

- Designed a **merit plan cloning feature** (Python, Golang, MongoDB, AWS, Redis) that cut merit cycle setup time from hours to minutes, streamlining workflows for 20+ client teams
- Delivered a **notification system** (Python, AWS SNS/SQS/SES, Lambda) processing 1,000+ emails monthly with 99% reliability, exposing a wrapper API to simplify integration across internal services

PROJECTS

Video Streaming Pipeline

Node.js, AWS ECS/S3/SQS/EventBridge, FFmpeg, Docker, MongoDB

- Developed a scalable video processing system converting uploaded videos to HLS format for adaptive bitrate streaming using AWS ECS Fargate for serverless compute

SKILLS

- **Languages:** Python, Rust, Golang, JavaScript, SQL
- **Frameworks & DBs:** FastAPI, Axum, Celery, PostgreSQL, MongoDB, Redis, SurrealDB
- **Infrastructure:** Kubernetes, Docker, Proxmox, Coolify, Cloudflare, AWS, GCS
- **Tools:** Fluvio, Fluent Bit, OPA Gatekeeper, Authentik SSO, Git, Linux

EDUCATION

B.E. Computer Science Engineering – Chitkara University

2021 – 2025 | CGPA: 9.72