

# PRANAY DAS

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## PROFESSIONAL SUMMARY

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Software Engineer with 6+ years of experience building scalable distributed systems, microservices, and high-performance APIs across fintech and pharma, including Natixis, Novo Nordisk, Eli Lilly, and YC-backed startups like Instoried. Proficient in Python, Go, Java, and Node.js, with hands-on experience in FastAPI, Gin, and cloud-native architectures across AWS, GCP, and Azure using Docker and Kubernetes. Also experienced in applied Agentic AI workflows, RAG architectures, LangChain, and vector databases. Open-source contributor with a strong systems and security mindset. Holds a B.Tech in Computer Science from Sambalpur University and a Master's in Computer Science from Purdue University.

## PROFESSIONAL EXPERIENCE

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### Eli Lilly and Company

October 2024 - Present

Software Developer

Remote

- Automated end-to-end flow of Adverse Event and Product Complaint data from Lilly Safety Link into Lilly Safety System and Veeva QMS using Python, FastAPI, Temporal (Python SDK), PostgreSQL, and AWS (S3, Secrets Manager, IAM), reducing manual regulatory-submission processing time.
- Built a Dose Order Management System (FastAPI, Temporal, Redis, PostgreSQL, React.js) enabling clinical site users and manufacturers to place and track drug dose orders.
- Designed Agentic Workflows to summarize legal documents, using RAG (LangChain) and vector databases which helped lawyers and analysts quickly extract key insights.
- Supported deployments and operations in AWS using Docker, Argo CD, and Kubernetes, and monitored/triaged production Temporal workflows and QMS (Quality Management System) integrations.
- Built a large-scale support data ingestion pipeline that processed 5–10 TB of raw unstructured data from call center agents and web forms, transforming it into structured datasets for downstream enterprise systems and analytics workflows.

### Google Summer of Code

May 2024 - August 2024

Open Source Software Developer

Remote

- Developed the opensource scorecode PyPI package in Python to fetch and store OpenSSF Scorecard data via the OpenSSF public API.
- Created Django mixin models for seamless integration of Scorecard data into platforms like Scancode.io (opensource software packages scanning tool) and PurlDB (the package URL database)
- Implemented a pipeline within Scancode.io to retrieve and store Scorecard data, enhancing SBOM exports in CycloneDX format from the data fetched from ScoreCard
- The entire feature integration for my PyPI service was implemented within a large-scale Django web application using Django REST Framework (DRF), including API development, service orchestration, authentication, and production deployment workflows.
- Tech Stack - Python, Django, REST APIs, SBOM (Software Bill of Materials), OpenSSF, Vulnerability Analysis, Git, GitHub, CI/CD pipelines, Open-source development

### Instoried

August 2019 - May 2023

Software Developer (Founding Engineer)

Bengaluru, Karnataka, India

- Led product development at Instoried as a Founding Engineer, building and scaling the core SaaS platform, payment systems, and developer SDKs using Python, Go, and Node.js with FastAPI and Gin. Scaled the platform to 100K+ paid users across Series A and B funding rounds.
- Built and scaled distributed systems including authentication/authorization services, payment platforms, ML inference services, sharded databases, and enterprise developer REST APIs, with strong focus on concurrency handling, race-condition prevention, caching strategies, and efficient rate limiting for high-scale production workloads.
- Built and scaled event-driven systems using Kafka, SNS, and SSE for reliable real-time processing, notifications, and streaming, with strong focus on fault tolerance and handling high-load distributed workloads efficiently.
- Architected microservices using Docker, Kubernetes, and Redis, improving backend scalability and service isolation.
- Deployed and maintained infrastructure using Terraform, AWS EC2, S3, and Jenkins, reducing hosting costs by 50%.
- Enhanced observability and debugging using Elasticsearch and improved data flow across services via Apache Kafka.
- Tech Stack - Python, Golang, Flask, FastAPI, AWS EC2, AWS S3, Kubernetes, Docker, Terraform, Jenkins, MySQL, PostgreSQL, Apache Kafka, Celery, NVIDIA GPU, OAuth2

### KaptureCRM

January 2019 - May 2019

Software Developer

Bengaluru, Karnataka, India

- Built a scalable data-sync middleware in SpringBoot to integrate heterogeneous systems including Shopify, HubSpot, Snowflake, PostgreSQL, SQL databases, and NetSuite.
- Architected a serverless pipeline on AWS (Lambda, SQS/EventBridge) to process and sync data with low latency and high reliability.
- Engineered a Change Data Capture (CDC) pipeline leveraging database WAL/binlog streams and event-driven triggers to detect incremental mutations (insert/update/delete) in near real-time.
- Handled and synchronized terabytes of high-volume enterprise data across distributed systems with optimized batching, streaming pipelines, partitioning, and fault-tolerant processing to maintain low-latency and reliable data consistency at scale.
- Designed retry strategies with exponential backoff, DLQs, and failure monitoring to ensure high reliability and at-least-once delivery semantics.

### Aptus Data Labs

June 2017 - December 2018

Software Developer

Bengaluru, KA, India

- Built a data-integration platform enabling users to connect, fetch, and sync data across REST APIs and 20+ SQL/NoSQL database formats — automating work that otherwise required custom point-to-point integration code per source.
- Designed a NoSQL-to-relational mapping layer to normalize heterogeneous data models into consistent, queryable schemas.

- Architected the platform as Python/Django and Java microservices, handling connector orchestration, schema mapping, and data synchronization at scale.

## PROJECTS & OUTSIDE EXPERIENCE

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### Compliance Checker

2022 - 2023

*Freelance Software Developer (Novo Nordisk) - Pharma/HealthCare*

*India*

- Architected a medical documents compliance automation system using a distributed event-driven system written in Golang (Gin), optimized with connection pooling, goroutines, and non-blocking I/O for high-throughput, low-latency processing.
- Designed an event-driven workflow to ingest documents (PDF/structured data) via REST + object storage triggers using AWS S3 triggers which invokes a lambda worker enabling asynchronous validation pipelines with worker pools for parallel compliance rule evaluation.
- Integrated observability stack (structured logging, Prometheus metrics, latency histograms) to monitor SLA adherence and detect bottlenecks in rule evaluation pipelines.
- Designed normalized PostgreSQL schemas with indexed search fields, transactional boundaries, and full audit logging for regulatory traceability.

### KYC Portal

2020 - 2023

*Freelance Software Developer (Natixis Investments) - FinTech*

*Bengaluru, KA, India*

- Built a microservices-based KYC/AML platform using FastAPI + React, implementing JWT auth, RBAC, and REST APIs with Pydantic validation.
- Integrated third-party systems (Orbis, World-Check, Moody's — AML/sanctions screening providers) via resilient REST adapters with retries, exponential backoff, and response normalization.
- Designed and implemented Anti-Money Laundering (AML) and fraud detection tools using Python, integrating a lightweight ML engine to reduce manual checks by 70%.
- Developed a server-side Node.js/Next.js PDF generation service with streaming responses; containerized and deployed on AWS (EC2, RDS, S3).

## SKILLS

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**Programming Languages:** Python, Java, C/C++, SQL, Go

**Web Frameworks & APIs:** Flask, Django, FastAPI, Node.js, Next.js, Postman, REST APIs, gRPC, GraphQL, OpenAPI, Swagger, gin, Temporal

**Cloud & DevOps:** AWS, S3, Lambda, Docker, Kubernetes, Git, CI/CD, Terraform, Jenkins, Google Cloud Platform, Nginx, Helm, MLOps, BigQuery

**Databases:** MySQL, PostgreSQL, MongoDB, Redis, Dynamodb, Cassandra, Elasticsearch

**Architecture & Infrastructure:** Apache Kafka, Microservices, Agile, Computer Networking, Celery

**Data & Analytics:** Pandas, Elasticsearch, NumPy

## EDUCATION

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### Purdue University - West Lafayette

June 2023 - May 2025

*Master's, Computer Science*

- Coursework: Network Security (padding oracle attacks, applied cryptography) and Software Security (reverse engineering, binary exploitation — stack canaries, NOP sleds, register-level debugging; web security — XSS)

### Sambalpur University

August 2013 - April 2017

*Bachelor's, Computer Science*

*GPA: 3.5*

## CERTIFICATIONS

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CompTIA Security+ SY0-501