Biswajit Satapathy

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Summary

Full Stack Developer with a focus on scalable distributed systems and high-performance applications. Expert in Node.js/NestJS and Angular, specializing in GraphQL (Apollo Federation), REST APIs, and responsive UI with RxJS and Signals. Proven track record in designing event-driven microservices using Kafka, RabbitMQ, and Redis. Experienced in full SDLC ownership—from architectural design and RAG/ETL pipelines to CI/CD and Kubernetes deployments—focused on security, RBAC, and system observability.

Education

Boston University, Masters in Computer Science, Boston, MA **Sep 2024 – Dec 2025**
Courses: Object Oriented Programming(OOP), Database, Distributed Systems, Graduate Algorithms, Applied ML, Deep Learning, Data Science, Data Engineering
Vellore Institute of Technology, Bachelors in Computer Science, India **Aug 2018 – May 2022**

Skills

Languages: Python, TypeScript, JavaScript, Go, Java, C++, SQL (PL/SQL), Bash/Shell.
Backend : Node.js (NestJS/Express),GraphQL, Spring Boot, FastAPI, Django, Flask, Kafka, RabbitMQ
Frontend : Angular (RxJS, Signals), React, Next.js, Vue.js, TailwindCSS
Databases: SQL (PostgreSQL, MySQL), NoSQL (MongoDB, DynamoDB, Redis), Vector (Qdrant, Chroma)
Cloud Platforms: AWS (EC2, EKS, S3, Lambda, ECR), GCP, Azure (VM, ACR, App Service), DigitalOcean
DevOps & CI/CD: Docker, Kubernetes, Jenkins, Ansible, Terraform, Git, GitLab,GitHub Actions
Data Engineering & Analytics: PySpark, Apache Airflow, Hadoop, MapReduce, PowerBI, Tableau
Tools: Jest, Playwright, Cypress, PyTest, Prometheus, Grafana, Datadog, ELK Stack/Splunk, Selenium

Professional Experience

Full Stack Developer, TurboVets Inc, Boston, MA (Remote) **Jan 2026 – Present**

- Architected a VA Forms platform and My Claims dashboard with Angular 20, NestJS, and GraphQL in an Nx monorepo, replacing legacy PDF workflows with real-time auto-save and reducing completion time by **40%**.
- Engineered a PDF-to-template pipeline using pdfjs-dist and Zod to map PostgreSQL JSONB form responses to AcroForm coordinates, enabling automated generation of validated VA documents for **100+** fields.
- Built a visual Template Builder with conditional logic, versioning, and draft-to-publish lifecycle, enabling scalable creation of **750+** VA form templates integrated with submission tracking.
- Developed a reactive My Representative portal with Angular Signals and GraphQL, syncing POA data across **5** UI states for **5,000+** veterans with reusable OnPush cards.

Full Stack Software Engineer Intern, Varmodel AI, Austin, TX **May 2025 – Aug 2025**

- Automated Gemini-2.5 API integrations and **ETL** workflows to generate data for **70,000+** companies, analyzing weekly reports and deriving insights using **Power BI**, reducing manual effort by **80%**.
- Built and deployed a full-stack SaaS platform on **DigitalOcean** (Django, TypeScript/Vue.js/Nuxt.js, PostgreSQL) using **Docker** and CI/CD, cutting environmental bugs by **60%**.
- Integrated Salesforce, Hubspot, Twilio and LinkedIn OAuth 2.0 in **React** frontends and **Node.js** backends via **GraphQL/REST APIs**, automating **70%** of communication, payments, and **CRM** sync workflows.
- Architected a **RAG**-based semantic search with **Django, PostgreSQL**, **Vector Database**, **LangChain**, **LLMs** (GPT 3.5), and **Redis** caching, boosting relevance by **25%** and cutting latency by **3s**.
- Improved observability and reliability of ETL workflows and the RAG engine by building **dashboards** and monitoring metrics using **Prometheus** and **Grafana**, reducing bugs by **30%**
- Led a **4**-person team, driving code quality through reviews, mentoring peers, collaborating with cross-functional teams, aligning priorities with changing business needs, and delivering resilient, production-ready systems.

Software Developer, AppViewX Pvt. Ltd, India **Feb 2022 – Jun 2024**

- Developed **Python and SQL** modules to manage **Nginx** configurations for **3,000+** devices, enhancing data consistency and reducing query latency by **25%**; monitored system metrics and logs via **Datadog** and **Splunk**.
- Optimized F5 load balancer profile addition in **Java** (Spring Boot) with O(n log n) sorting + binary search,

reducing execution time by **30%** for **10,000+** devices and deployed on **AWS EC2**.
- Implemented certificate lifecycle management system using **Python**, **MongoDB**, and **AWS S3** handling **50,000+** certificates for critical customers while ensuring secure storage and access.
- Automated **Kubernetes** cluster deletion workflow on **AWS EKS** using **Spring Boot** cluster management **microservices**, **Terraform**, and **Ansible**, for scalable and reliable operations.
- Implemented an event-driven system architecture using **Kafka** to synchronize Citrix load balancer configurations across **5,000+** devices, enabling real-time updates and strong consistency.
- Enhanced **CI/CD** pipelines (**Jenkins**) and backend unit tests using **Selenium** and **PyTest** to automate load balancer deployment, improving release quality and reducing production rollbacks by **50%**.

Projects

Board Games (Coursework: Object-Oriented Programming) GitHub **Jan 2023 – Apr 2023**

- Developed a **Java**-based terminal platform featuring games like Legend of Valor, Quoridor and Super Tic Tac Toe, focusing on modular design, reusability, and scalability using Object-Oriented principles.
- Enabled easy expansion and efficient game management, reducing development time for new games by **30%** and validated game logic with **JUnit** unit tests for reliable gameplay.

Distributed Key-Value Store (Coursework: Distributed Systems) GitHub **Jan 2025 – May 2025**

- Built a sharded, fault-tolerant key-value store in **Go** using Omnipaxos, ensuring strong consistency and high availability across nodes.
- Deployed on Google Kubernetes Engine **(GKE)** with containerized orchestration, supporting horizontal scalability and failure recovery.

Database Management System (Coursework: DBMS) GitHub **Jan 2024 – May 2024**

- Built a database management system with a buffer pool using **LRU** eviction for optimized data access.
- Implemented **B+ Trees** and **LSM** Trees for efficient data operations, achieving high-performance reads/writes and reducing query response time by 40%.

TikTok Content Analytic Pipeline (Coursework: Data Engineering) GitHub **Feb 2024 – Apr 2024**

- Built a scalable ETL pipeline using **PySpark** on an **S3** backed **Hadoop** data lake to process more than **200,000** TikTok records and generate creator level engagement features.
- Orchestrated ingestion and transformations with **Airflow** using Python-operator and Bash scripts and improved data reliability by reducing pipeline failures through automated validation steps.

E-commerce Platform GitHub **Sep 2023 – Dec 2023**

- Built a full-stack **MERN** platform featuring **Stripe** payments, real-time order management, and advanced search/filter functionality, leveraging **Cursor AI** for intelligent code assistance.
- Created **Tableau** dashboards for analytics and deployed the platform on **Azure** with containerization and auto-scaling, ensuring high availability and performance.

Achievements

National Winner (1st Prize) – Smart India Hackathon 2020: Farm Helper

- Built a smart agriculture solution using **CNN, TensorFlow, and ML models** with web and mobile apps for crop yield prediction, plant disease detection, and a farmer chatbot.
- Added features for fertilizer purchase, crop selling, e-fencing, and crisis management, enhancing efficiency and farmer support.

Peer-reviewed IEEE Conference Paper – ViTECoN 2019: Lazy Learning kNN Classification

- Proposed a novel classification method integrating lazy learning associative classification and kNN to generate high-quality nearest neighbor class association rules.
- Achieved improved classification accuracy compared to existing lazy learning associative classifiers, demonstrating effectiveness on large datasets.