BISWAJIT SATAPATHY

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EDUCATION

Master of Science in Computer Science,   **Sep 2024 - Present**
Boston University, Boston
Courses: Object Oriented and Design, Graduate Algorithms, Database Management System, Distributed Systems, Applied
 Machine Learning, Deep Learning, Data Science

Bachelor of Technology in Computer Science and Engineering   **Aug 2018 - May 2022**
Vellore Institute of Technology, Chennai, India

PROFESSIONAL EXPERIENCE

Senior Software Engineer, *Varmodel AI, Austin, TX, USA*   **May 2024 - Present**
- Automated partner intelligence processing by building a **Google Apps Script** integrated with the **Gemini API**, enabling structured enrichment of **spreadsheet data** through **dynamic batching** with **state management**, **JSON parsing**, and **error recovery**—reducing **manual effort by 80%** and accelerating **go-to-market readiness**.
- Standardized and **deployed** a **full-stack SaaS** platform on **DigitalOcean** using **Docker (Django, Nuxt.js, PostgreSQL),** with **CI/CD pipeline** to automate **testing**, **deployment**. Restored production **DB snapshots** across **containerized** dev, test, and prod environments to ensure full parity — cutting environment-related bugs by **30%** and speeding up **release cycles.**
- Implemented scalable integrations with **Salesforce**, **Twilio**, **Stripe**, and **LinkedIn OAuth** in a **Django** backend via **REST APIs**, orchestrating **OAuth2.0 authentication**, **webhook processing**, and **real-time data pipelines** that **automated 70%+** of manual workflows and unlocked enterprise-grade **communication, payments,** and **CRM** sync capabilities.
- **Architected** and **implemented** a **production**-ready **semantic search** solution for a **Django/PostgreSQL** application, integrating **Qdrant vector database** and automating company data vectorization using **OpenAI** embeddings and **Django signals**, **boosting** search relevance by **25%** and reducing user search time by an average of **3 seconds**.

Software Developer, *AppViewX Pvt. Ltd, India*   **Feb 2022 - June 202**
- Implemented a user-friendly interface using **Python** supporting **CRUD** functionalities of **Nginx devices**, empowering teams to effortlessly manage over **1,500 unique upstream configurations**, which significantly improved service uptime.
- Optimized profile addition for **F5 load balancing devices** by transitioning the time complexity from **$O(n^2)$ to $O(n \log n)$** using a **sorting-based approach** and **binary search** in **Java**. This enhancement reduced execution time by nearly **30%** for managing **10,000+ devices**, significantly improving operational speed and scalability.
- Built an end-to-end flow for selecting and saving certificate options that seamlessly triggers **backend processes** interacting with the **Python SDK** to update the **MongoDB database**. This solution enhanced the user experience for critical customers and eased out the management of over **50,000 certificates**.
- Developed **automated workflows** for **Kubernetes cluster deletion** based on **user-selected parameters**, incorporating **complex logic** for optimal cluster selection. Additionally, created methods to **fetch** and **pre-select data** from the database and implemented several **backend APIs** using **Java** to perform these tasks, ensuring accurate configurations.

PROJECTS

Key-Value Store (Go,Docker)   **Sep 2024 - Oct 2024**
- Implemented a **distributed key-value store** based on the **Consensus protocol**, developed from the ground.
- Ensured **data storage** and **retrieval** using **sharding** with **consistency** and **fault tolerance** giving **50% increase** in speed.

Efficient Data Management System (C++)   **Sep 2024 - Oct 2024**
- Built a database management system featuring a **buffer pool** for optimized data access using **LRU eviction policy.**
- Implemented efficient data insertion, modification, and deletion using **B+ Trees** and **LSM trees**, ensuring high-performance reads and writes achieving a **40% reduction** in query response time.

Ecommerce Shopping   **Dec 2021 – Jan 2022**
- Developed a responsive e-commerce web application using **MERN** stack (MongoDB, Express, React, Node), implemented **search, filter**, and **pagination** and **deployed** the application on **Microsoft Azure** using **Dockerized** containers.
- Integrated **Stripe** for payment, and built an **admin dashboard** for order processing and product/user management.

ACHIEVEMENTS

Hackathons: Smart India Hackathon , Hackerearth   **Publications:** Associative classification with kNN algorithm
SKILLS : C++, Java, Python, Go, MongoDB, MySQL, PostgresSQL, REST APIs, Kubernetes, Django, SQL, JavaScript, Docker,
 Microsoft Azure, Digital Ocean, Redis, Git, CI/CD, Jenkins, JIRA, Qdrant Vector DB