

ASHISH KUMAR MISHRA

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Education

Kalinga Institute of Industrial Technology

Bachelor of Technology in Computer Science Engineering (CGPA of 8.6)

July 2019 - May 2023

Bhubaneswar, Odisha, India

Experience

Perennial Systems

Oct 2025 – Present

Senior Associate

Pune, India

- Led and mentored a team of 10+ developers across the **BRE (Business Rule Engine)** platform—Connectors Module, Integration Step, and Rule Execution Service—driving architecture alignment, code quality reviews, and on-time delivery of enterprise modules.
- Architected the **Connectors Module**, an enterprise data integration control plane powered by **Airbyte**, implementing CDC replication via **Debezium/Kafka**, schema discovery, ELT syncs, and migration pipelines to **Delta Lake** and **Snowflake** across PostgreSQL, Salesforce, SAP, and 20+ external systems.
- Designed the **BRE Integration Step** and workflow DAG executor (**Go + Node.js**), enabling business users to invoke connector operations within rule workflows with dynamic input/output mapping, circuit breakers, dead-letter queues, and configurable retry policies at runtime.
- Built AI-ready data infrastructure featuring **pgVector**-powered semantic catalog search, automated **PII** classification, **Great Expectations** data quality scoring across five dimensions, end-to-end lineage tracking, and an **AI Readiness Console** to assess downstream **ML/Bi** pipeline readiness.
- Authored low-level design documents, end-to-end integration specifications, functional user stories, and validation scenarios unifying Connectors and BRE into a single enterprise automation platform; coordinated closely with product, business, and engineering stakeholders to streamline requirement-to-delivery execution.
- Drove intelligent workflow integrations for digital **KYC**—orchestrating BRE decision tables with Secure-ID's **AI agent runtime** (**OCR**, face match, liveness detection) and Sentinel **AML** screening via async REST orchestration, risk-tiering rules, and explainable audit trails.

Ezee.ai

June 2022 – September 2025

Software Development Engineer - **Banking Pod**

Bengaluru, India

- I served as a Tech Lead for clients **JFS (Jio Financial Services)** and **JPB (Jio Payments Bank)** at the client location, Jio Reliance Corporate Park, Navi Mumbai.
- Developed a new microservice for virtual accounting, facilitating payment gateways and enabling various transactions such as **AEPS (Aadhar Enabled Payment System)** and **DMR (Domestic Remittance)**.
- I am responsible for overseeing new development for the product **Lend.ezee**, a digital lending platform designed to assist **NBFCs (Non-Banking Financial Companies)** in providing loans efficiently.
- Developed a robust Video KYC (Know Your Customer) platform specifically designed to streamline the lending process for NBFCs (Non-Banking Financial Companies) and Banks like IDBI
- Collaborated closely with NBFC stakeholders to understand their specific requirements and tailor the platform to meet their needs effectively.
- Implemented the QR Codes method for UPI and Jio-Pay QR Payments.

Projects

BCMS (Business Correspondent Management System) — Jio Payments Bank - | Node.js, MongoDB, Flutter

- Implementation of virtual accounting to oversee agent transactions and commissions. Integration of transactional functionalities via AEPS (Aadhaar Enabled Payment System).
- Orchestrated the project from inception to completion, collaborating closely with cross-functional teams including development, security, and operations.
- Configured Single Sign-On (SSO) capabilities to enable users to access the application with a common set of credentials, boosting productivity and user satisfaction.
- Collaborated with SBI and AXIS banks API's to facilitate seamless money withdrawal and seamless interaction with CBS (Core Banking System) and GL (General Ledger) accounts.
- Integration of the platform with multiple third-party APIs to enhance functionality and Incorporated EKYC (Electronic Know Your Customer) integration with biometric devices.

BRE (Business Rule Engine) | Node.js, MongoDB, Angular

- Led a team of 7 developers to develop a versatile and award-winning Business Rule Engine (BRE) platform for NBFCs, featuring customizable rule configurations, scalable real-time evaluation, robust validation mechanisms, modular architecture, seamless integration, and optimization tools, earning the **Technoviti Award 24** for excellence. .

Enterprise Connectors Module — Perennial Systems | *Node.js, Go, Airbyte, Kafka, React, MongoDB*

- Designed an enterprise data integration control plane powered by **Airbyte**, implementing **CDC** replication via **Debezium/Kafka** across PostgreSQL, Salesforce, SAP, and 20+ external source systems with real-time health and lag monitoring.
- Built an **agentic-AI-ready** data foundation with **pgVector** semantic catalog search, automated **PII** tagging, and **Great Expectations** quality scoring—enabling autonomous retrieval and governed context for downstream LLM agents.
- Delivered migration engine, end-to-end lineage tracking, and an **AI Readiness Console** aggregating catalog, quality, and freshness metrics to assess **ML/Bi** and agentic pipeline readiness.
- Implemented RBAC, audit trails, and schema discovery with connection lifecycle management, enabling governed self-service access for data engineers and analysts.

BRE Integration Step & Workflow Builder — Perennial Systems | *Go, Node.js, React, MongoDB*

- Architected a no-code **Integration Step** enabling autonomous connector operations (CRUD, SOQL queries, sync) within BRE workflow DAGs with dynamic input/output field mapping and live test execution.
- Implemented a **Go**-based autonomous runtime executor with circuit breakers, dead-letter queues, and configurable stop/skip/retry policies—orchestrating multi-step integrations without manual intervention.
- Authored end-to-end integration specifications and REST contracts bridging the Connectors control plane with the BRE execution plane for unified data automation.

Digital KYC Orchestration (Secure-ID × BRE × Sentinel) — Perennial Systems | *Go, Python, React, FastAPI*

- Orchestrated **agentic** digital **KYC** journeys where Secure-ID's **AI agent runtime** autonomously executes verification steps—**OCR**, face match, liveness detection, and dedup—before handing structured payloads to BRE decision tables.
- Designed agent-driven async REST orchestration and risk-tiering workflows handling long-running **AML/PEP** screening without HTTP timeout failures, with idempotent case creation and explainable audit trails.
- Published reusable workflow templates (Standard Individual KYC, Enhanced Due Diligence, reKYC Trigger) with knockout rules, human-review routing, and autonomous approve/review/reject decision policies.

Sales Coach AI — Perennial Systems | *React, FastAPI, PostgreSQL, PGVector, Redis, LangGraph, Azure OpenAI*

- Built an **agentic field-sales copilot** for distributor sales teams (DSPs) and managers, combining rule-based shop prioritization with generative AI for visit prep and conversational data analysis over retail outlet networks.
- Architected the core **Ask AI agent** as a **LangGraph StateGraph**—guardrails → intent routing → tool-calling agent → answer synthesis—with **GPT-4o** autonomously selecting and chaining 7 RBAC-scoped DB tools (`query_shops`, `aggregate_metrics`, `generate_chart`, etc.) without raw SQL generation.
- Implemented multi-turn agent memory with PostgreSQL persistence, conversation summarization, clarifying questions, follow-up suggestions, adversarial prompt guardrails, and **SSE** streaming of tokens and chart payloads to the React chat UI.
- Delivered complementary **GPT-4o** visit prep notes and portfolio briefs, rule-based outlet scoring (0–100) with explainable risk reasons, next-best-action engine, manager KPI dashboards, and Dockerized deployment with JWT/RBAC across DSP, manager, and admin roles.

Cost Intelligence Platform (CIDB) — Perennial Systems | *Python, FastAPI, PostgreSQL, PGVector, LangChain, AutoGen, Gemini*

- Developed an **agentic AI** construction cost intelligence platform where **AutoGen** multi-agent workflows autonomously retrieve, reason over, and price **BoQ (Bill of Quantities)** data from historical project corpora.
- Built ETL pipelines for Excel-based BoQ ingestion, hierarchy validation, and historical cost data processing; containerized services with **Docker** and **GitLab CI/CD** for reliable deployments.
- Implemented **Agentic RAG** using **LangChain**, **AutoGen**, **OpenAI**, and **PGVector**—agents autonomously perform semantic search, project similarity matching, and context-aware cost retrieval to drive pricing recommendations.
- Designed agent-orchestrated pricing workflows with similarity scoring, historical rate retrieval, and **CPI-based** escalation logic; delivered **React** dashboards for analytics, forecasting, pricing review, and reporting.

Intelligence Document Platform (multi-ocr-fe) — Perennial Systems | *Python, FastAPI, Next.js, ReactFlow, OpenAI, Gemini*

- Developed an **agentic document intelligence** platform where **LLM agents** autonomously route extraction across multiple OCR engines (**Mistral OCR, PaddleOCR, Tesseract, Azure OCR, Google Vision**) and LLM providers (**OpenAI, Gemini, Azure OpenAI, Mistral**) based on document type and schema.
- Built **agentic extraction workflows** with **ReactFlow**—configurable DAGs for schema management, provider selection, REST APIs, API key management, and webhook integrations enabling autonomous end-to-end document processing.
- Implemented real-time agent execution with **WebSocket** updates, PDF region highlighting, and human-in-the-loop extraction review for customs and business document automation.
- Delivered authentication, **RBAC**, admin management, **Azure Blob Storage** integration, and Docker-based deployment for production-grade document automation.

Technical Skills

Programming Languages: C, C++, Java, Python, TypeScript, Go

Scripting Languages: Shell Script, Node.js

Web Development: React, Next.js, Vite, Express.js, React Native, HTML, CSS

Frameworks & APIs: FastAPI, MERN, MEAN, Salesforce, REST, WebSocket, JWT

Databases: PostgreSQL, MongoDB, MySQL, Redis, PGVector, SQLite

AI & Agentic Systems: LangGraph, LangChain, AutoGen, OpenAI, Azure OpenAI, GPT-4o, Gemini, RAG, LLM Tool-Calling

Data Engineering: Airbyte, Kafka, Debezium, CDC, ETL/ELT, Great Expectations, Delta Lake, Snowflake

Tools & Technologies: Docker, GitLab CI/CD, ReactFlow, RBAC, FFmpeg, Janus

Version Control: Git

Cloud: AWS, Azure, Azure Blob Storage

Achievements

- AWS Certified Solutions Architect - Associate
- Microsoft Certified: DevOps Engineer AZ-400
- Secured All India Rank (AIR) 5288 in Google Hashcode.
- Ranked in top 92% in the world in Google CodeJam.