

ARCHIT BISWAS

Mumbai, India | +91-91520-19510 | architbiswas885@yahoo.com | linkedin.com/in/archit-biswas | github.com/archit-biswas

PROFESSIONAL SUMMARY

Software Engineer with an M.Sc. in Computer Science (Augmented and Virtual Reality) from **Trinity College Dublin** and a B.E. in Electronics and Telecommunications from RGIT Mumbai, specializing in **full-stack development**, **GenAI/LLM systems**, and applied **machine learning**. Experienced building **RESTful APIs**, **distributed systems**, and **containerized deployments** using **React**, **Node.js**, **Spring Boot**, and **Docker**. Has built and deployed **retrieval-augmented generation** pipelines, predictive **ML** models, and **NLP** systems using **LangChain**, **XGBoost**, and **Rasa**. Strong foundation in **data structures**, **system design**, and **Agile** delivery, with a consistent track record of cross-team collaboration and technical documentation.

TECHNICAL SKILLS

Languages: JavaScript, Python, Java, C++, C#, SQL, TypeScript

Frontend: React, HTML5, CSS3, Responsive Design, Component-Based Architecture, UI/UX Development

Backend & APIs: Node.js, Express.js, Spring Boot, REST APIs, GraphQL, Microservices Architecture, System Design, Distributed Systems, API Integration, JSON

AI / ML & Data: LLM Integration, GenAI, Prompt Engineering, RAG, Agentic AI, LangChain, ChromaDB, Rasa, Machine Learning, NLP, Deep Learning, Reinforcement Learning, Feature Engineering, Model Deployment, MLOps, Predictive Modeling, EDA, Statistical Analysis, Data Analytics, Data Visualization, Apache Kafka, Event-Driven Systems

XR & Game Dev: Unity3D, Unity XR Toolkit, Unreal Engine, C#

DevOps & Infra: Docker, Containerization, CI/CD, AWS (S3), Infrastructure as Code, Git, Maven, Linux, Monitoring & Observability

Engineering Practices: Agile/SDLC, OOP, Unit Testing, Code Reviews, Debugging, Technical Documentation

CERTIFICATIONS

- **Career Essentials in Software Development** : Microsoft & LinkedIn
- **Docker Foundations Professional Certificate** : LinkedIn Learning
- **AI and Machine Learning Specialisation** : College of Engineering Pune

VIRTUAL JOB SIMULATIONS (FORAGE)

- **JPMorganChase Software Engineering Job Simulation (Mar 2026)** : Integrated Kafka with Spring Boot microservices, implemented JPA persistence, consumed REST APIs via RestTemplate, and validated transaction workflows with Maven test suites.
- **Tata iQ Data Analytics Job Simulation (Mar 2026)** : Performed EDA with GenAI tools, designed a no-code predictive modeling framework for customer delinquency risk, and formulated an agentic AI-driven collections strategy with ethical AI and regulatory compliance considerations.

EDUCATION

Trinity College Dublin, Ireland

M.Sc. in Computer Science - Augmented and Virtual Reality, December 2025

MCT's Rajiv Gandhi Institute of Technology, Mumbai

Bachelor of Engineering in Electronics and Telecommunications (Honors in Artificial Intelligence and Machine Learning), 2024

EXPERIENCE

Customer Relations Management Associate, *Amazon (Remote)*

2025 – Present

- Maintained **first-contact resolution rates** above SLA targets by triaging and resolving **multi-system technical issues** across account security, identity verification, and transactional workflows using structured **root-cause analysis** and enterprise diagnostic tooling.
- Identified and escalated transactional anomalies and account behavior irregularities to support **fraud reduction** efforts, applying analytical reasoning within **data governance**, regulatory compliance, and operational risk frameworks.
- Achieved zero documentation gaps across compliance reviews by authoring and maintaining structured **SOPs**, issue resolution logs, and escalation records aligned with **Agile** delivery and quality assurance standards.
- Reduced cross-tier escalation cycle times by coordinating across technical support tiers and operations teams through structured problem decomposition, documented handoff protocols, and clear stakeholder communication.

Front-End Web Development Intern, *RoboRise Technologies (Remote)*

Apr 2022 – Jun 2022

- Improved web application performance by **25%** across page load benchmarks by developing reusable, modular **UI components** in **React**, **JavaScript**, **HTML5**, and **CSS3** following **component-based frontend architecture** principles.
- Reduced frontend data rendering latency by **30%** by integrating **REST APIs** and **GraphQL** endpoints for asynchronous, optimized client-side content delivery.
- Reduced post-deployment defects by participating in **Agile** sprint cycles, structured peer code reviews, and debugging workflows in accordance with full **SDLC** best practices and accessibility compliance standards.

PROJECTS

Local RAG AI Agent (GenAI / LLM)

2025

- Developed a fully offline **Retrieval-Augmented Generation (RAG)** agent using **Ollama (Llama 3.2 LLM)** and **ChromaDB**, eliminating cloud API dependency entirely and enabling zero-cost intelligent document analysis on private datasets.
- Engineered an end-to-end **LangChain** orchestration pipeline with **mxbai-embed-large embeddings** and persistent vector storage, applying **prompt engineering** to inject retrieved context directly into the LLM for data-grounded responses.
- Eliminated repeat re-indexing overhead across sessions by implementing a **Pandas**-based ETL and CSV ingestion pipeline with persistent ChromaDB vector store reuse and structured **Python** dependency management.
- Containerized the complete LLM and vector database stack with **Docker**, producing a cloud-deployable, production-ready **GenAI** template for secure **MLOps** workflows in enterprise data governance environments.

Full-Stack Ride Sharing Application

2025

- Engineered the backend using **Node.js** and **Express.js**, integrating a **Neon serverless PostgreSQL** database to handle data persistence and core API requests.
- Reduced client-side render latency by architecting a scalable, **component-based React** frontend with asynchronous **REST API** and **GraphQL** integration for optimized dynamic data delivery.
- Achieved zero-downtime deployment reliability by containerizing the full application stack with **Docker** and configuring **CI/CD** pipelines for automated, reproducible production builds.
- Improved team delivery velocity across **Agile** sprints by maintaining technical documentation and SOPs, implementing responsive design principles for cross-device compatibility and streamlining developer onboarding.

VR Art Gallery Application, *Trinity College Dublin*

2025

- Delivered all project milestones on schedule by building interactive **VR** environment modules in **Unity3D** using the **Unity XR Toolkit**, with **JavaScript**-driven UI components, following structured debugging workflows and Agile/SCRUM peer code reviews at Trinity College Dublin.
- Reduced developer onboarding time by authoring component architecture documentation and workflow SOPs, enabling cross-functional collaboration within an Agile/SCRUM project environment at Trinity College Dublin.
- Gained hands-on exposure to **AWS S3** for cloud-based asset storage while collaborating within a team-led development workflow.

Retail Price Optimization Engine

2025

- Developed a retail price optimization model in **Python**, combining **XGBoost** regression with **Prophet**-based demand forecasting to recommend price points that maximize revenue.
- Modeled price elasticity of demand across product categories, achieving an **R² of 0.92** in predicting demand response to pricing changes.

NLP-Based Conversational Chatbot

2025

- Developed a conversational AI chatbot using **Rasa** as the core **NLU** and dialogue management framework, combined with rule-based logic and **spaCy/NLTK** for natural language preprocessing.
- Achieved **85%+ accuracy** in both intent classification and response accuracy through structured testing, with findings documented in a published research paper.

Adaptive AI for Dynamic Narrative Games (Dissertation), *Trinity College Dublin*

2025

- Designed and implemented five adaptive AI architectures, heuristic rule-based, fuzzy logic, tabular Q-learning, Bayesian probabilistic inference, and deep reinforcement learning (PPO), in **Python** to evaluate dynamic narrative adaptation in video games, under the supervision of Prof. Michael Manzke at Trinity College Dublin.
- Found that the **Bayesian probabilistic model** delivered the most practical balance of interpretability, computational efficiency, and adaptive performance, while reinforcement learning approaches underperformed due to reward misalignment and limited training resources, informing recommendations for resource-constrained narrative game AI.