

# Balam Ruchith Balaji

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📍 Bengaluru, India | Open to relocation: Singapore, Australia

## PROFESSIONAL SUMMARY

AI/ML Engineer with 1+ year of production experience designing end-to-end LLM pipelines, RAG systems, and scalable ML infrastructure on AWS. Achieved **96% classification accuracy** across 51 categories monitoring 200+ global companies. Proficient in AWS Bedrock, LangChain, semantic search, and cloud-native MLOps. Published researcher with a strong foundation in deep learning and full-stack AI application development.

## TECHNICAL SKILLS

**AI / ML & LLMs:** AWS Bedrock (Claude), LangChain, RAG, Prompt Engineering, LLM Fine-Tuning, Semantic Deduplication, NLP, TensorFlow, Keras, Scikit-learn, Hugging Face

**Cloud & MLOps:** AWS S3, AWS Lambda, Amazon Titan Embeddings, Concurrent LLM Processing, Batch Ingestion, FastAPI, Streamlit, Docker

**Databases:** PostgreSQL, MongoDB, MySQL, Supabase, AWS S3

**Languages:** Python, TypeScript, JavaScript, C++

**Frameworks / Tools:** ReactJS, NodeJS, ExpressJS, Scrapy, Git, VS Code, Jupyter Notebook

## PROFESSIONAL EXPERIENCE

### SG Analytics

Bengaluru, India

*Junior Data Scientist*

*Jan 2026 – Present*

- Engineered and own a **production-grade LLM pipeline** on AWS Bedrock (Claude) monitoring **200+ global companies** across **91 locations**, ingesting **800–1,000 articles/day** via EventRegistry API with full audit logging.
- Built structured classification and QC tagging workflows achieving **96% decision accuracy** (manually validated), using prompt engineering and automated quality checks.
- Implemented **semantic deduplication** using Amazon Titan Embeddings and cosine similarity, eliminating cross-company and cross-day duplicate articles at scale.
- Delivered concurrent LLM processing, ad-free semantic HTML content generation, and PostgreSQL batch ingestion pipeline supporting reliable daily production delivery.

### SG Analytics

Pune, India

*Data Scientist Intern*

*Jan 2025 – Jul 2025*

- Designed an intelligent **SWOT Analysis System** using **RAG + Amazon Bedrock**, integrating SEC 10-K filings and annual reports with live web data for auto-generated, factually grounded reports.
- Built a high-throughput **web crawler and data pipeline** (Python, Scrapy, FastAPI, AWS S3) automating extraction of **500+ URLs/minute at 95% accuracy**.
- Automated an **SFDR-compliant CIM system** to extract ESG KPIs from unstructured corporate documents and generate structured Excel reports for financial analysts.

## PROJECTS

### Code Review Assistant | *LangChain, FastAPI, Python*

- Built an AI-powered code review tool with semantic indexing, reducing manual review time by **70%** and improving feedback accuracy to **90%+** on codebases of 1,000+ LOC.
- Used text splitters and code output parsing for real-time, actionable suggestions, boosting developer efficiency by 50%.

### AI Interviewer | *MERN Stack, Ollama, React, Node.js*

- Developed a voice-based AI chatbot generating **50+ realistic interview Q&As per session** using Ollama (local LLM), with a scalable backend supporting **200+ concurrent users at <2s response time**.
- Improved user interview readiness by **30%** based on post-session feedback analysis.

### Secure Face Login System | *ResNet-50, React, MongoDB, Python*

- Engineered a full-stack deep learning web application with ResNet-50 face recognition achieving **98%+ accuracy**, reducing login time by 40% and supporting 300+ concurrent sessions at <1.5s response time.

### Budglio — Gamified Budget Tracker | *TypeScript, Supabase, React*

- Built a real-time family budget tracking app with **<300ms sync** via Supabase, processing **1,000+ CRUD ops/day** across 10+ expense categories during testing.

## EDUCATION

### Amrita Vishwa Vidyapeetham

Bengaluru, India

*B.Tech in Artificial Intelligence*

*2021 – 2025*

- CGPA: 8.22 / 10

## PUBLICATIONS

**C to Python Compiler using LEX & YACC | *ICOFE-2024***  
**Comprehensive Web Analysis of Automobile Websites | *ICCCIT-2025***

Oct 2024  
Dec 2024