

# Akhileshwar Sanathana

AI Engineer | Generative AI, RAG & Software Craftsmanship

Manchester, United Kingdom | [07554462431](#) | [akhileshwar008@gmail.com](mailto:akhileshwar008@gmail.com) | [LinkedIn](#) | [Github](#)

## Summary

Passionate AI Engineer with a strong foundation in Generative AI, RAG architectures, and Agentic frameworks. Committed to Software Craftsmanship principles, utilizing Agile methodologies and TDD to build robust, production-ready AI solutions. Experienced in Python, Cloud (Azure/AWS), and modern AI-assisted development tools (Cursor, Copilot). Eager to join Codurance to solve real-world client problems and contribute to the firm's growing AI capabilities through experimentation and knowledge sharing.

## Experience

### BGC - Cantor Fitzgerald

January 2024 - July 2024

Software Engineer (Automation & Cloud)

London, United Kingdom

- Legacy System Evolution: Refactored and optimized legacy automation scripts using Python and Azure, aligning with modern engineering standards to improve system reliability and maintainability.
- Agile Delivery: Worked within an Agile environment to deliver automation solutions that streamlined business operations, demonstrating a focus on client value and iterative development.
- Knowledge Sharing: Documented technical workflows and APIs, facilitating knowledge transfer within the team and improving onboarding efficiency.

### PeopleLink

June 2022 - July 2022

Data Mining Intern

Hyderabad, India

- Data Solutions: Built data extraction and processing pipelines to solve specific client marketing challenges, ensuring data quality for downstream analysis.
- Experimentation: Rapidly prototyped data mining algorithms to assess practical applications for campaign optimization.

## Education

### University of Southampton

September 2024 - September 2025

Artificial Intelligence

Master's Degree

Merit

- Dissertation (AI Evaluation & Observability): Developed a framework for evaluating model reliability using Conformal Prediction. Focused on uncertainty quantification in noisy data environments, directly addressing the need for robust evaluation strategies in AI systems.

### ICFAI Tech University

July 2020 - July 2024

Computer Science and Engineering

Bachelor's Degree

Distinction

## Projects

### Agentic RAG Knowledge System

- RAG Architecture: Built a production-ready RAG system using LangChain and Vector Databases, implementing a dual-layer Redis semantic cache to optimize retrieval latency.
- Agentic Workflows: Designed agentic reasoning loops to handle complex user queries, utilizing Prompt Engineering techniques to ensure deterministic and safe outputs.
- AI-Assisted Development: Leveraged GitHub Copilot and Cursor during development to accelerate coding velocity, demonstrating proficiency with modern AI developer tools.

LangChain, Vector Databases, Redis, GitHub Copilot

### Production-Grade Vision Pipeline

- Evaluation & Observability: Implemented rigorous evaluation pipelines for a ResNet-50 model (Medical Imaging), utilizing data augmentation and transfer learning to ensure robustness in production scenarios.
- Engineering Best Practices: Structured the project with modular code and reproducible training scripts, adhering to software craftsmanship principles.

Model Evaluation, Python, Computer Vision, Clean Code

### Audio Classification System

- Experimentation: Benchmarked multiple deep learning architectures (CNNs vs LSTMs) to assess practical application value for audio signal processing tasks.

PyTorch, Experimentation, Signal Processing

## Volunteering

### Enactus UK & Ireland

2024 - Present

Member

Engaged in community-driven projects, practicing public speaking and presenting solutions to diverse stakeholders.

## Skills

### GenAI & Agentic Frameworks

LangChain, CrewAI Concepts, RAG Architectures, Vector Databases, Prompt Engineering, LLM Evaluation

### Software Craftsmanship

Agile Methodologies, Clean Code, CI/CD Principles, Version Control (Git), AI-Assisted Tools (Cursor, Copilot)

### Cloud & Core Tech

Python, Azure, AWS, SQL, Redis

### Knowledge Sharing

Technical Documentation, Mentoring, Public Speaking, Client Delivery

## Certifications

### Amazon Web Services (AWS) Certification

August 2022

Amazon Web Services

### Google AI Essentials Certification

August 2025

Google

<https://www.coursera.org/account/accomplishments/verify/HJV7ITUANWYO>

### Artificial Intelligence Fundamentals

October 2025

IBM

[https://www.credly.com/badges/9e6f3425-0797-41f6-ae60-baccad2fdef4/linked\\_in\\_profile](https://www.credly.com/badges/9e6f3425-0797-41f6-ae60-baccad2fdef4/linked_in_profile)

## Publications

### Metaverse and Blockchain Use Cases and Applications

12 August 2025

Taylor and Francis Group

<https://doi.org/10.1201/9781003559269>

Authored a technical chapter on secure digital ecosystems, demonstrating capability in technical writing and knowledge sharing.