# KASHISH KHAN

kashishkhann100@gmail.com | +353 89 225 1067 | Dublin, Ireland | linkedin.com/in/kashish-k-258b72305 | github.com/KashishhKhann

## PROFESSIONAL SUMMARY

MSc Artificial Intelligence graduate (Dublin Business School, 2026) with a dual-master's background in Computer Applications and AI. Built production-grade NLP, LLM, RAG, and knowledge-graph systems end-to-end: an LLM observability platform on Azure Container Apps, a GraphRAG clinical decision support system on 50,000+ MIMIC-IV records, and an AI inbox triage system that won a competitive hiring hackathon (GiveAGrad x Lette AI, 2026). Fluent across the full ML lifecycle — embedding pipelines, vector search, FastAPI backends, Docker, and cloud deployment. Actively seeking junior AI/NLP/ML engineering or data science roles in the Irish market.

## EDUCATION

**MSc Artificial Intelligence** — Dublin Business School — Jan 2025 – 2026 | Dublin, Ireland

- Dissertation: *GraphRAG for Clinical Decision Support* — BioClinicalBERT, FAISS, Neo4j knowledge graph, MIMIC-IV; evaluated on Hit@5, Precision@5, BERTScore F1, ROUGE-L.
- Core modules: Advanced NLP, Deep Reinforcement Learning, Cognitive & Ethical AI, Cloud Computing.
- Implemented MiniBioClinicalBERT from scratch in Julia (Flux.jl): positional encodings, multi-head attention, transformer blocks, cross-validation, attention visualisation.
- Built RealisticEREnv (custom Gymnasium + Pygame RL environment); benchmarked Dueling DQN vs Baseline DQN.

**MCA — Master of Computer Applications** — Amity University — 2022 – 2024 | India

- Software engineering, databases, algorithms, and applied computing; projects in Python, Java, and SQL.

## KEY PROJECTS

**LLM Trace & Cost Studio** — Personal Build (Production-grade) — 2025 – 2026 | Azure / Docker / FastAPI

- Engineered a self-hosted LLM observability platform (LangSmith-lite) from scratch: FastAPI backend, Streamlit analytics dashboard, SQLite store, Docker Compose multi-service orchestration.
- Captured per-request latency, token usage, cost tracking, and trace metadata; deployed to Azure Container Apps.
- Built deterministic chunk-ID mapping and embedding-drift mitigation to maintain retrieval consistency across pipeline updates.
- *Stack:* Python, FastAPI, Streamlit, Docker, Azure Container Apps, LangChain, OpenAI API, SQLite.

**GraphRAG Clinical Decision Support** — MSc Dissertation — 2025 – 2026 | NLP / Knowledge Graph / RAG

- Designed a three-tier retrieval system over 50,000+ MIMIC-IV discharge summaries: FAISS dense retrieval + Neo4j knowledge graph for relational reasoning; MongoDB as the primary store.
- Fine-tuned BioClinicalBERT embeddings for clinical entities (diagnoses, medications, procedures); tracked embedding drift across dataset updates.
- Structured raw discharge notes with regex pipelines to extract HPI, PMH, labs, medications; enriched with ICD-10/ICD-9 codes.
- *Stack:* Python, BioClinicalBERT, FAISS, Neo4j, MongoDB, LangChain, HuggingFace Transformers, Docker.

**Lette Inbox Copilot — AI Triage System** **(Hackathon Winner)** GiveAGrad x Lette AI — 2026 | LLM / RAG / Streamlit

- Won the Lette AI track (GiveAGrad, 2026); built a three-tier property-management inbox triage system under competition conditions.
- Tier 1: auto-resolve FAQs via semantic search. Tier 2: LLM-generated response drafts with confidence scores. Tier 3: human-escalation routing.
- Delivered a real-time Streamlit dashboard showing triage decisions and message routing; received direct outreach from Lette co-founder post-event.
- *Stack:* Python, LangChain, OpenAI API, FAISS, Streamlit — github.com/KashishhKhann/lette-inbox-copilot

## TECHNICAL SKILLS

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|---|---|
| **Languages** | Python, Julia, SQL, Bash, JavaScript (basic) |
| **LLM / GenAI** | LangChain, LlamaIndex, OpenAI API, HuggingFace Transformers, Prompt Engineering, RAG Pipelines, Fine-tuning (LoRA / PEFT) |
| **NLP** | BERT, BioClinicalBERT, NLTK, spaCy, TextBlob, VADER, Med7, Sentence Transformers |
| **ML / DL** | PyTorch, TensorFlow (basic), Scikit-learn, Flux.jl, Lux.jl |
| **Vector / KG** | FAISS, ChromaDB, Neo4j (Cypher), NetworkX |
| **Databases** | MongoDB, PostgreSQL, SQLite |
| **MLOps / Infra** | Docker, FastAPI, Streamlit, Azure Container Apps, GCP (Foundations cert.), MLflow (basic) |
| **Data Engineering** | Pandas, NumPy, Scrapy, PySpark (basic), Matplotlib, Seaborn |
| **RL** | OpenAI Gymnasium, Pygame, DQN, Double DQN, Dueling DQN, DRQN |
| **Dev Tools** | Git, GitHub, VS Code, Jupyter, CI/CD (basic) |

## CERTIFICATIONS

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|---|---|---|
| **Google Cloud Computing Foundations Certificate** | Google | Dec 2023 |
| **Software Engineering Job Simulation** | Electronic Arts / Forage | Apr 2026 |
| **Automation Pro I** | Workato | Mar 2024 |
| **Responsive Web Design** | freeCodeCamp | Nov 2023 |