

Bakary Gibba

AI Engineer | Applied AI Researcher

Kuala Lumpur, Malaysia • +60 113 977 5794 • bakarygibba055@gmail.com

[GitHub](#) • [LinkedIn](#) • [Google Scholar](#) • [ResearchGate](#) • [Portfolio](#)

Trustworthy AI • Explainable AI • Multi-Agent Systems • AI for Healthcare

Profile

Final-year Computer Science student, AI engineer, and published researcher with experience in trustworthy and explainable AI, multi-agent systems, Retrieval-Augmented Generation, medical AI, and production software engineering. Published, accepted, and submitted research spans medical imaging, predictive modelling, LLM-based agents, and public-health analytics, complemented by contributions to the Anserini and Pyserini information-retrieval repositories and founder-led development of Konexium. Interested in building reliable, evidence-grounded, and human-centred AI systems supported by rigorous evaluation, interpretability, and real-world deployment.

Research Areas

Trustworthy AI • Explainable AI • Multi-Agent Systems • AI for Healthcare • Retrieval-Augmented Generation • Information Retrieval • Human-Centred AI • LLM Evaluation

Education

Albukhary International University

Kedah, Malaysia

Bachelor of Computer Science (Honours)

Oct. 2023 – Expected 24 Nov. 2026

CGPA: **3.50/4.00**

Professional Experience

Founder & Lead Developer

Sep. 2026 – Present

Konexium — [konexiumai.com](#)

- Lead development of an early-access AI-native B2B research platform spanning 54 African markets and 10 research languages.
- Design evidence-grounded agents with source provenance, human approval controls, audit trails, multi-tenant isolation, and MCP integrations.

AI Engineering Intern

April 2026 – Present

Apping Technology Sdn. Bhd., Kuala Lumpur, Malaysia

- Developed production AI platforms including **Compass**, **AI HR Assistant**, **Closer AI**, and intelligent automation systems by building scalable backend services, REST APIs, and AI-powered workflows.
- Engineered LLM applications using OpenAI, Gemini, Retrieval-Augmented Generation (RAG), vector databases, prompt engineering, and configurable multi-provider architectures to support enterprise knowledge retrieval and content generation.
- Collaborated with cross-functional teams to deliver customer-facing AI features, automate business processes, improve system reliability, and deploy production-ready software using NestJS, TypeScript, Python, PostgreSQL, Docker, and Git.

Research and Open-Source Experience

Undergraduate Researcher

2024 – Present

Albukhary International University, Malaysia

- Conduct research in explainable AI, information retrieval, multi-agent systems, medical AI, and intelligent decision-support systems with faculty and international collaborators.
- Design and evaluate machine-learning and deep-learning systems using classification and retrieval metrics, explainability methods, and reproducible experimental workflows.
- Contribute to published and accepted research as first author, co-author, presenter, and open-source contributor.

Castorini Foundations of Retrieval and Open-Source Contributions

2026

- Completed all eight Foundations of Retrieval lessons covering BM25, dense retrieval, learned sparse retrieval, retrieval evaluation, and manual score verification.

- Contributed reviewed documentation improvements to [Anserini \(PR #3357\)](#) and [Pyserini \(PR #2620\)](#); both were merged into the official repositories.

Selected Publications, Preprints & Accepted Papers

Published Works

1. Md Serajun Nabi, Md Rashidul Islam, **Bakary Gibba**, Raihana Mohammadi, M. Touhami, and M. F. Ahmad Fauzi. *Skin Lesion Classification with Explainable AI to Enhancing Dermatological Diagnosis*. In *2025 Multimedia University Engineering Conference (MECON)*, pp. 1–6, IEEE, 2025. DOI: [10.1109/MECON67253.2025.11277079](#).
2. Zurinahni Zainol, **Bakary Gibba**, Altagi Abdallah Bakheit Abdelgadir, Almonzer Abdallah, Md Serajun Nabi, and Basheer Riskhan. *Smartphone Use, Study Habits, and Academic Outcomes: Machine Learning Approaches to GPA Prediction*. In *Smart, Inclusive, and Sustainable Digital Societies*, pp. 162–174, CRC Press, 2026. DOI: [10.1201/9781042012725-15](#).

Accepted Papers

1. **Bakary Gibba** and Sami Salama Hussen Hajjaj. *Multi-Agent Machine Learning Framework for Explainable Resume–Job Matching Using LLM-Based Agents*. Presented at the *3rd International Symposium on Information Technology and Web Engineering (SITWE 2026)*, 30 September 2026; accepted for publication in *Highlights in Web Engineering III*, MMU Press, 2026.
2. Md Rashidul Islam, Ali Sena Danishwer, Hafizullah Mohammadi, **Bakary Gibba**, and Md Serajun Nabi. *Early Diagnosis of Chronic Kidney Disease Using Supervised and Unsupervised Learning*. Accepted for presentation at *NexSymp Summit 2026*, 2026. Selected for publication consideration in the *Journal of Engineering Technology and Applied Physics (JETAP)*, subject to successful presentation.

Preprints and Manuscripts Under Review

1. Md Rashidul Islam, **Bakary Gibba**, and Altagi Abdallah Bakheit Abdelgadir. *A Hybrid Deep Learning Framework with Explainable AI for Lung Cancer Classification with DenseNet169 and SVM*. Manuscript under review at the *IAES International Journal of Artificial Intelligence*. [arXiv:2512.03359](#), 2025.
2. Md Rashidul Islam and **Bakary Gibba**. *An Explainable AI-Driven Framework for Automated Brain Tumor Segmentation Using an Attention-Enhanced U-Net*. [arXiv:2603.23344](#), 2026. DOI: [10.48550/arXiv.2603.23344](#).
3. Vahid Mato, **Bakary Gibba**, et al. *Trends and Determinants of Early Initiation and Exclusive Breastfeeding Rates from the Gambia Demographic and Health Survey*. Manuscript under review at *Scientific Reports*, 2025.
4. Vahid Mato, **Bakary Gibba**, et al. *Infant Immunization Coverage Cascade and Equity Analysis in The Gambia*. Submitted to *Vaccine*, 2026.

Selected Engineering Portfolio

AI HR Assistant

[GitHub](#)

Enterprise RAG assistant for organization-scoped document search, evidence retrieval, and configurable AI providers. *Technologies: NestJS, Qdrant, PostgreSQL, OpenAI, Gemini*

Compass – AI Marketing Intelligence Platform

[GitHub](#)

Production platform for client intelligence, content generation, workflow automation, and human review using multi-provider LLMs. *Technologies: NestJS, TypeScript, PostgreSQL, OpenAI, Gemini*

Closer AI

[GitHub](#)

Production conversational sales assistant integrating backend services, AI workflows, and user-facing review. *Technologies: TypeScript, NestJS, PostgreSQL, OpenAI*

Technical Expertise

Languages	Python, TypeScript, JavaScript, SQL, R
AI & Machine Learning Frameworks	Large Language Models (LLMs), Multi-Agent Systems, Retrieval-Augmented Generation (RAG), Prompt Engineering, Explainable AI (SHAP, Grad-CAM), Deep Learning, Computer Vision
Databases	NestJS, Node.js, Express.js, Prisma ORM, Hugging Face Transformers
Tools & Platforms	PostgreSQL, MongoDB, Qdrant, Vector Databases
	Git, GitHub, Docker, Linux, Postman, n8n, Appium, OpenAI API, Gemini API

Awards & Recognition

- Albukhary Foundation Scholarship (Fully Funded Undergraduate Scholar)
- Dean’s List Award (4×), Albukhary International University
- Best Research Presenter Award, AIU Research Symposium
- International Conference Presenter (AI & Machine Learning)
- Maybank Global #MBassador, ASEAN Youth Leadership Programme