



Engr. Inam Ullah Khan

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ABOUT ME

Lecturer candidate with a completed Master's degree in Data Science from Al-Farabi Kazakh National University, Kazakhstan, and a Bachelor of Engineering degree in Telecommunication Engineering. Academic and teaching experience includes Computer Science, Mathematics, ICT, Computer Organization, Artificial Intelligence, Machine Learning, Data Science, and engineering-related subjects.

Strong technical background in Python, R, SQL, Machine Learning, Deep Learning, Natural Language Processing, Generative AI, Retrieval-Augmented Generation, statistical analysis, data visualization, and research methodology. Experienced in classroom teaching, instructional material development, student academic support, applied AI research, and conference-based academic writing.

Seeking Lecturer positions in Data Science, Computer Science, Artificial Intelligence, Machine Learning, Programming, Statistics, and related university departments.

EDUCATION AND TRAINING

1 SEP 2024 – 1 JUL 2026 Almaty, Kazakhstan

MASTER IN DATA SCIENCE Al Farabi Kazakh National University

Selected Advanced Coursework (Top Performance):

- Applied Machine Learning (99%), Deep Learning (97%), Generative AI Technologies (96%), Cognitive Systems & Neural Networks (97%), Mathematical Methods in Data Science (95%).

Website <https://farabi.university/?lang=en> | **Final grade** 3.74 |

Thesis Agentic AI for Unstructured Data Processing with Retrieval-Augmented Generation (RAG) — Design, Development and Evaluation of an agentic RAG framework for conversational university information assistance using retrieval, reasoning, and LLM orchestration over large-scale institutional documents.

1 MAR 2013 – 27 FEB 2017 Karachi, Pakistan

BACHELOR OF ENGINEERING IN TELECOMMUNICATION ENGINEERING Hamdard University, Main Campus

- Strong foundation in engineering mathematics, statistics, programming, and communication systems.

Website <https://www.hamdard.edu.pk/home/> | **Final grade** 3.88/4

TEACHING EXPERIENCE

20 JAN 2025 – 3 MAY 2025

Pedagogical Intern - AL-FARABI KAZAKH NATIONAL UNIVERSITY

- Assisted in teaching and academic activities related to data science and computing courses.
- Developed instructional materials and supported student learning in quantitative and technical subjects.

5 MAR 2020 – 1 SEP 2024

Certified Teacher (CT) - ELEMENTARY AND SECONDARY EDUCATION DEPARTMENT (KPESED)

Teaches Mathematics and Computer Science.

14 SEP 2019 – 1 MAR 2020

Lecturer - GOVT POLYTECHNIC INSTITUTE - HARIPUR, PAKISTAN

- Teach courses in Computer Organization and Architecture, and Basics of ICT.
- Guide students in various projects.
- Conduct practical sessions to reinforce theoretical knowledge.

1 SEP 2017 – 1 SEP 2018

Lecturer - GOMAL POLY TECHNICAL COLLEGE, D.I.KHAN

Teaches the Following Courses:

- Applied Mathematics (MATH-123)
- Computer Application (COMP-122)
- Principles of Electrical Engineering (ET-115)
- Mathematics-II (MATH-233)
- Telecommunication (ET-343)

● RESEARCH EXPERIENCE

10 APR 2026 – 24 APR 2026

Research Intern - Institute of Information and Computing Technologies (IICT), Almaty, Kazakhstan

- Supported research on agent-based AI systems and intelligent information assistance in educational environments.
- Assisted in experimental design, data organization, evaluation planning, and technical documentation.
- Contributed to research workflows involving AI, NLP, retrieval systems, and knowledge-grounded response generation.

9 FEB 2026 – 7 MAR 2026

Research Intern - Al-Farabi Kazakh National University, Almaty, Kazakhstan

- Designed and evaluated an AI-based research prototype for university information assistance using **Retrieval-Augmented Generation, semantic retrieval, and LLM orchestration**.
- Applied research methodology to structure experiments, compare system outputs, and analyze retrieval and generation performance.
- Used **Python, LangChain, FAISS, embeddings, and prompt engineering** to support data-driven experimentation and system evaluation.
- Documented experimental procedures, results, limitations, and findings for thesis writing, conference publication, and academic presentation.

6 OCT 2025 – 13 DEC 2025

Research Intern - Al-Farabi Kazakh National University, Almaty, Kazakhstan

- Conducted literature review on **LLM-based question answering, semantic retrieval, knowledge grounding, and conversational AI systems**.
- Identified research gaps and supported the formulation of research objectives for an AI-enabled educational information system.
- Assisted in planning experimental workflows, evaluation criteria, and documentation procedures for reproducible research.
- Supported academic writing and technical reporting related to AI, NLP, and Retrieval-Augmented Generation systems.

● PROJECTS

KazNU Agentic RAG Assistant - MSc Dissertation Implementation

Master Dissertation Project | Al-Farabi Kazakh National University | 2026

GitHub: <https://github.com/inammarwat/kaznu-agentic-rag-assistant>

- Designed and implemented an **Agentic Retrieval-Augmented Generation system** for university information assistance using verified institutional sources from PDFs and web pages.
- Built a modular RAG pipeline covering **data ingestion, text preprocessing, table extraction, chunking, metadata enrichment, embedding generation, and Chroma vector store creation**.
- Developed and compared two retrieval workflows: a **Baseline RAG pipeline** for direct questions and an **Agentic RAG pipeline** for complex, multi-source, and ambiguous queries.
- Implemented agentic components including **query decomposition, multi-query retrieval, reciprocal-rank fusion, source validation, source sufficiency scoring, reflection/critique agent, and rejected-source tracking**.
- Evaluated the system using **faithfulness, relevance, completeness, citation quality, hallucination score, and latency**, with comparison reports and visualization outputs for thesis and presentation use.
- Conducted controlled evaluation using **50 dataset-aligned baseline questions** and **30 complex multi-part questions** to compare Baseline RAG and Agentic RAG performance.

Technologies: Python, LangChain, ChromaDB, FAISS/Vector Search, Embeddings, LLMs, RAG, Agentic AI, Prompt Engineering, Evaluation Metrics, Data Preprocessing

NeuralTranscript - Retrieval-Augmented Generation (RAG) System for YouTube Content

Designed and implemented an end-to-end semantic search and question-answering system over long-form YouTube transcripts using dense vector retrieval and LLM grounding.

Technologies: Python, LangChain, FAISS, LLM, NLP

Skills: Retrieval-Augmented Generation (RAG), Vector Databases, Embeddings, LLM Integration, Prompt Engineering, Semantic Search

Link <https://github.com/inammarwat/rag-youtube-transcript>

Festive Modern ML Challenge: Santa's Neural Networks

Formulated and evaluated **Transformer-based NLP models** for robust semantic understanding of **noisy, multilingual, and emoji-rich text**, addressing challenges in informal language processing and representation learning.

Technologies: Python, Hugging Face Transformers, PyTorch

Skills: Transformers, multilingual NLP, noisy text handling, model evaluation

Link <https://colab.research.google.com/drive/1L8qxs5c6NVs31jieH26Kw7Jqnu2hv-Lw?usp=sharing>

Predictive Maintenance for Industrial Equipment

Built machine learning models using NASA's Turbofan Engine Degradation dataset to predict equipment failure within operational cycles, focusing on classification performance and temporal patterns.

Technologies: Python, Pandas, NumPy, Scikit-learn

Skills: Predictive analytics, time-series analysis, classification modeling

Link https://colab.research.google.com/drive/1RH_Tn_NLs3Yp9waB2fAro-wrGquWmYw6?usp=sharing

Christmas Data Mining & ML Challenge: Santa's Sleigh Optimization

Developed an **integrated machine learning framework** combining spatial clustering, time-series forecasting, and imbalanced

classification to optimize large-scale logistical routing under dynamic environmental and ethical constraints.

Technologies: Python, Pandas, NumPy, Scikit-learn

Skills: Clustering, time-series modeling, imbalanced learning, ensemble ML, ethical AI

Link <https://colab.research.google.com/drive/1ZxhRuN-VaiadPzXgMYASZb8dC8z1j8Oc?usp=sharing>

Predicting Life Expectancy Using Socioeconomic and Health Indicators

Developed a regression model to predict life expectancy using WHO and World Bank datasets.

Technologies: R, Tidyverse, ggplot2, caret

Skills: Data preprocessing, regression modeling, statistical analysis, data visualization

Link <https://inammarwat.github.io/predicting-life-expectancy/>

AI in Education: Survey Data Analysis

Analyzed survey data on the adoption and perception of AI in education. Results were presented through an interactive Quarto website.

Technologies: R, Quarto, Tidyverse

Skills: Survey analysis, visualization, inferential statistics

Link <https://inammarwat.github.io/ai-education-survey/>

● PUBLICATIONS

Design and development of an agentic retrieval-augmented generation system for university information assistance.

In Proceedings of the First Congress of Mathematicians of Kazakhstan

"Scientific Artificial Intelligence – Mathematical Methods and Industrial Applications (SciAI2026)",

Shymkent, Kazakhstan, 2026.

Publisher: Springer CCIS book series

Status: Submitted – under review.

Evaluation of an agentic retrieval-augmented generation system for university information assistance

In Materials of the International Scientific Conference of Students and Young Scientists
"Farabi Alemi",
Almaty, Kazakhstan, 2026.
Publisher: Kazakh University Press.
Pages: 59–60.
ISBN: 978-601-04-7487-1.

Development of a retrieval-augmented generation-based AI assistant for university information system.

In Materials of the VII International Scientific and Methodological Conference
"Artificial Intelligence (AI) Synergy in Education",
Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2026.
Publisher: Kazakh University Press.
Pages: 5–7.
ISBN: 978-601-12-7494-9.

Real-Time Sentiment Analysis of Social Media for Brand Monitoring: A Review

In Proceedings of the VI International Scientific and Methodological Conference
"Artificial Intelligence (AI) in Educational Sphere – Challenges and Evolution",
Al-Farabi Kazakh National University, Almaty, Kazakhstan, 2025.
Pages: 453–455.
ISBN: 978-601-04-7150-4.

● SKILLS

Programming & Tools: Python, R, SQL, Pandas, NumPy, Scikit-learn, Git/GitHub | Machine Learning: Deep Learning, Classification, Regression, Model Evaluation | NLP: Transformers, Hugging Face, Semantic Search, Embeddings | Frameworks & Tools: PyTorch, Scikit-learn, LangChain, FAISS, Pandas, NumPy, Git/GitHub | Research Skills: Literature Review, Experimental Design, Academic Writing, Conference Presentation | Data Analysis: Data Cleaning, EDA, Statistical Analysis, Regression, Classification | Visualization: ggplot2, Matplotlib, Quarto, Dashboards, Research Figures

● LANGUAGE SKILLS

Other language(s): **PASHTO (NATIVE), ENGLISH (C1/PROFICIENT)**

● PROFESSIONAL TRAINING

16 JUN 2025 – 6 AUG 2025

Summer Data Science Bootcamp (Online)

- Completed an intensive 8-week training program in R-based data science and statistical modeling
- Applied regression analysis, survey modeling, causal inference foundations, and EDA
- Developed reproducible research projects using Quarto and GitHub
- Tools: R, Tidyverse, ggplot2, Positron IDE

Link <https://bootcamp.davidkane.info/>

● HONOURS AND AWARDS

Honours and awards

- Kazakhstan Government "Bologna" Scholarship — Full scholarship for MSc Data Science
- Prime Minister's National ICT Scholarship Program — Fully funded BE Telecommunication Engineering

● **PROFESSIONAL DEVELOPMENT (PEC – CPD)**

CPD Webinars Attended (Pakistan Engineering Council)

1. **The Data-Driven Engineering: From Data to Decision Making** – March 14, 2026 (1 CPD)
2. **The NEH Algorithm and Its Applications** – November 13, 2025 (1 CPD)
3. **Enhancing Engineers' Communication & Presentation Skills** – September 25, 2025 (1 CPD)
4. **Artificial Intelligence in Engineering Applications, Innovations & Future Trends** – September 16, 2025 (1 CPD)
5. **Project Team Building in Engineering Project** – August 16, 2025 (1 CPD)
6. **Artificial Intelligence: Implications for Technologies & Business Strategy** – April 6, 2023 (1 CPD)
7. **Employers hire on attitude than any other skills** – June 29, 2022 (1 CPD)
8. **Risk Assessment and Management** – May 28, 2022 (1 CPD)