

GULSHAN KUMAR

AI ENGINEER | GENERATIVE AI & RAG | MACHINE LEARNING | DATA & BACKEND SYSTEMS

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[Portfolio](#) • [LinkedIn](#) • [GitHub](#)

PROFESSIONAL PROFILE

AI Engineer with an M.Sc. in Artificial Intelligence from the University of Verona (101/110), experienced in production Machine Learning, Generative AI, LLM/RAG systems, data engineering, and backend development. Currently engineering AI-driven financial analytics at Confidential SCF S.p.A., working across local LLM inference, vector search, structured query processing, Django, MySQL, ETL, and interactive analytics. Strong ability to translate research and AI methods into reliable, measurable software systems.

CORE TECHNICAL SKILLS

- **AI / GenAI:** LLMs, Generative AI, RAG, Prompt Engineering, Semantic Search, Embeddings, Recommender Systems, NLP
- **Machine Learning:** Supervised & Unsupervised Learning, Deep Learning, Time-Series Modeling, Anomaly Detection, Computer Vision
- **Programming:** Python, SQL (MySQL, PostgreSQL, Oracle SQL), TypeScript, JavaScript, C++
- **AI / Data Tools:** PyTorch, TensorFlow, Scikit-learn, Hugging Face, Sentence Transformers, LangChain, Ollama, FAISS, ChromaDB, Node2Vec, Word2Vec
- **Backend / Web:** Django, Flask, FastAPI, Next.js, React, REST APIs, HTML5/CSS3
- **Data / BI:** ETL, Data Warehousing, Pandas, NumPy, MS Access Migration, Power BI, Tableau, Chart.js, ApexCharts
- **Cloud / DevOps:** Linux, Docker, Git/GitHub, Vercel, Cloudflare (DNS/CDN/SSL), CI/CD, VS Code.

Additional Skills: AI-Powered Business Automation • Workflow & Process Automation • Social Media Marketing • Digital Marketing • Content Strategy • SEO • Video Editing • YouTube Content Creation • Thumbnail Design • Graphic Design • Social Media Graphics • Canva • Adobe Creative Tools • Audience Growth

PROFESSIONAL EXPERIENCE

(Confidential) SCF S.p.A. – AI Engineer | Verona, Italy | April 2026 – Present

- Design and deploy production AI analytics and local LLM services for financial applications using Python, Django, SQL, and Ollama.
- Build and optimize Retrieval-Augmented Generation (RAG) pipelines with ChromaDB/FAISS, Sentence Transformers, and structured query processing.
- Implemented prompt optimization, structured-query LLM bypasses, and model keep-alive strategies; internal benchmarks reduced analytics latency from ~154s to ~0.5s and RAG latency from ~25s to ~3.9s.
- Develop financial intelligence dashboards covering portfolio positions, risk profiling, liquidity analysis, and predictive analytics using Django, Chart.js, and ApexCharts.
- Design MySQL schemas and automated ETL workflows to transform legacy MS Access data into scalable web applications.
- Contribute to migration of legacy PHP and Power BI reporting workflows to modern Django-based applications.
- Evaluated models and experimental benchmarks, contributing to research outputs in AI/ML and resilient sensing systems.

University of Verona – Student Research Intern – Surgical Workflow Analysis | Verona, Italy | Aug 2024 – Sep 2024

- Developed CNN-LSTM models for surgical procedure phase recognition using multimodal time-series and video data, achieving ~86% experimental accuracy.
- Built Python and Scikit-learn preprocessing and data-transformation pipelines for high-dimensional healthcare datasets.

Pakistan Telecommunication Company Limited (PTCL) – Database & Linux Intern | Islamabad, Pakistan | April 2021 – Sep 2021

- Designed relational database schemas and SQL workflows to streamline enterprise data processing.
- Implemented data-integrity constraints and validation routines while supporting Linux operational environments.

PROJECTS

SP Commission Agent – AI Enabled Agricultural Trading Platform

spcommissionagent.pk

- Architected and deployed a live commercial platform for red chilli and agricultural commodity trading in Kunri, Pakistan.
- Built AI-enabled workflows for market price discovery, weather intelligence, export RFQs, and buyer/seller communication.
- Deployed production infrastructure with Next.js, Vercel, Cloudflare (SSL/CDN/DNS), and GitHub-based CI/CD.

Personal AI Engineering Portfolio & RAG Knowledge Engine

gulshankumar.site

- Built and deployed a live portfolio with an interactive AI assistant for structured information retrieval.
- Implemented with Next.js, TypeScript, vector embeddings, serverless API routes, and Vercel edge deployment.

M.Sc. Thesis – Personalized User Modeling for Query Recommendation

University of Verona | 2025–2026

- Designed and benchmarked three architectures: embedding-based (Sentence Transformers + cosine similarity), graph-based (bipartite user-query graph + Node2Vec), and local-LLM-based structured user-profile extraction.
- Evaluated personalized query recommendations on MS MARCO session data and OpenAssistant using Precision@K, Recall@K, NDCG, and MRR.

Economic Growth Forecasting System

Quaid-i-Azam University | 2022–2023

- Built a GDP prediction engine using Random Forest, Decision Trees, and regression algorithms, achieving 85% reported accuracy.
- Developed a Flask reporting interface with interactive Power BI and Tableau dashboards.

EDUCATION

University of Verona – M.S in Artificial Intelligence | Verona, Italy | Oct 2023 – Jul 2026

- Final Grade: 101/110 • Fully Funded Master's Scholarship
- Relevant coursework: Machine Learning, Deep Learning, NLP, Reinforcement Learning, Knowledge Representation & Automated Reasoning, Statistical Learning, AI in Finance, Intelligent Interfaces

Quaid-i-Azam University – B.S in Information Technology | Islamabad, Pakistan | Oct 2018 – Oct 2022

- Fully Funded Bachelor's Degree Scholarship
- Relevant coursework: Data Science, Database Management Systems, Data Warehousing & ETL, Information Systems, Statistics, Cybersecurity, Software Design

LANGUAGES, CERTIFICATIONS, COMMUNITY & ADDITIONAL SKILLS

- **Languages:** English C1 (Advanced/Professional) • Italian A2 (Elementary) • German A1 (Beginner) • Urdu, Hindi, Punjabi & Sindhi (Native)
- **Certifications & Training:** Prompt Engineering: How to Talk to the AIs (LinkedIn Learning) • RAG & Fine-Tuning Explained • IBM Python for Data Science • IBM Deep Learning Fundamentals • Google Technical Support Fundamentals
- **Community & Media:** Content Creator & AI Educator, *Gulshan in Europe* (2020–Present) – creating educational content and mentoring students on Artificial Intelligence, studying in Europe, international scholarships, employment, and technology careers, with **15,000+ combined followers and subscribers across YouTube, Facebook, and other social media platforms.**

GDPR CONSENT

I authorize the processing of my personal data for recruitment purposes in accordance with Regulation (EU) 2016/679 (GDPR) and applicable Italian data-protection legislation.