

# SHEHARYAR ISHFAQ

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## RESEARCH INTERESTS

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LLM agents and retrieval-augmented generation; machine learning systems; efficient training and inference on GPUs and clusters. Motivated by two years of building and operating production LLM agent systems.

## EDUCATION

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### Sorbonne Université, Paris (2025-2027, expected September 2027)

MSc Computer Science, DIGIT international programme (taught in English)

- M1 (2025-26): 12.0/20 on the French scale (10/20 is a pass; 12-14 earns the mention Assez Bien), ranked 4th of 14
- Selected M1 results: System Design and Modeling 93/100 (1st of 17); research project at LIP6 86.4/100 (3rd of 12); Programming and Networks 84.5/100
- M1 coursework also included Machine Learning, Cloud Computing, and Data Science, Learning and Applications
- M2 coursework (2026-27): massively parallel GPU programming (CUDA); parallelism and accelerators for cluster computing (SIMD, multithreading, MPI); high-performance computing; deep learning for visual recognition (PyTorch); network data analysis; network operations, virtualization and automation
- M2 ends with a 5-6 month research or industry internship (February to August 2027)

### University of Engineering and Technology (UET), Taxila, Pakistan (2020-2024)

BSc Computer Science, CGPA 3.19/4.00

- Coursework included artificial intelligence, computer vision, parallel and distributed computing, compiler construction, operating systems, big data analytics and data communication

## RESEARCH EXPERIENCE

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### Research Project, Dioptra team, LIP6, Sorbonne Université and CNRS (Spring 2026)

Supervisor: Prof Timur Friedman

- Studied whether Caracat, the Rust rewrite of the Caracal high-speed traceroute prober used for Internet topology measurement, behaves the same as its C++ predecessor
- Compared the two engines and validated identical probing behaviour across ICMP, UDP, IPv4 and IPv6
- Graded 86.4/100, ranked 3rd of 12 projects

## RELEVANT RESEARCH SKILLS

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- LLM agent systems e.g. tool calling, retrieval-augmented generation, Model Context Protocol (MCP) servers, streaming inference
- Machine learning e.g. PyTorch, scikit-learn, audio feature engineering, model comparison with cross-validation
- Systems e.g. Linux, Docker, Kubernetes, AWS (EC2, RDS, S3, Lambda), CI/CD; CUDA and MPI (current coursework)
- Programming in Python, C/C++, Rust, TypeScript and SQL

## AWARDS

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1st place, Mistral AI LLM × Law Hackathon, Paris, October 2026

Ranked 1st of 17, System Design and Modeling, Sorbonne Université, 2026

## ADDITIONAL RELEVANT EXPERIENCE

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### Lead Software Engineer, Maveria, US AI startup, remote (2024-2026)

- Built the market-intelligence platform end to end, then led the developers extending it
- Co-built its desktop agent in Rust (Tauri) with tool-calling LLM agents, retrieval-augmented generation and streaming
- Developed MCP servers, data pipelines and Python (OpenCV) services that analyse meetings and videos and simulate synthetic audiences and focus groups with LLMs
- Deployed and operated the services on AWS (Kubernetes on EC2, RDS, S3) with CI/CD as usage grew to 120+ client companies

### Full-Stack Developer, Aveksana, Finland, remote (2024)

- Built the document editor of a platform for drafting research proposals and theses; the user base grew from 7,000 to over 10,000

### Full-Stack Developer, Gourmet Gulf LLC, UAE, remote (2023-2024)

- Built an operations platform for 16 restaurants and 3 cloud kitchens in 3 countries, with background job queues (Redis, BullMQ)

### Freelance Software Engineer, part-time (2022-2025)

- Completed 165+ client projects, including a RAG chatbot platform (NestJS, Python, Qdrant) and a voice-AI receptionist

## SELECTED PROJECTS

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### BirdCLEF+ 2026, acoustic species identification, Kaggle (2026)

- Classified 206 bird species from 35,500+ recordings with engineered audio features; compared 5 models and reached 0.922 macro ROC-AUC (5-fold cross-validation). Code: [github.com/sheharyarIshfaq/birdclef-2026-classical-ml](https://github.com/sheharyarIshfaq/birdclef-2026-classical-ml)

### Bina.ai, Mistral AI LLM × Law Hackathon, Paris (October 2026)

- Built the backend for a team of 5: Mistral OCR, embeddings and chat turn data-protection sanction decisions into structured cases, and every quote is checked word for word against the source

### AIWrappers, AI app builder (2025)

- Multi-tenant platform where an agent generates a web app from a plain-language description, with one inference layer across 39 models from 5 providers

## ADDITIONAL SKILLS & COURSES

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Languages: English (IELTS Academic 7.5, October 2024; degree taught in English), Urdu (native), French (beginner)