

IVAN NIKOLOV

AI / ML Engineer — LLMs, RAG, Agentic Systems

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AI engineer building production LLM systems, agentic pipelines, and multilingual NLP. Lead AI/Backend Engineer at Factum AI — multilingual multi-agent legal chatbot live in Macedonia and Serbia, with 15+ additional markets operational. Bachelor's thesis on LLMs for style and author detection, and poetry generation in low-resource Macedonian.

Selected work: [Factum AI](#) · [GPT Protocol](#) · [MANU Alzheimer's AI Research](#) · [RoboMak 2023 — AI Agents, 1st Place](#)

EXPERIENCE

Team Lead · Factum AI — Skopje January 2026 – Present

Team Lead (April 2026 – Present) · AI and Software Engineer (January 2026 – April 2026)

- Lead engineering for Factum's **multilingual multi-agent legal chatbot** — live in Macedonia and Serbia, with 15+ additional markets operational.
- Own technical direction across agentic flows, data ingestion, web scraping, Celery async, and the chatbot's relational/non-relational database layer.
- Mentor **7 junior engineers**.

Software Engineer · GPT Protocol — Skopje April 2024 – February 2025

- Built backend services for a decentralized GPU compute marketplace (CTO: [Professor Panche Ribarski](#)) — users rent or buy compute with platform tokens.
- Designed an async resource reallocation algorithm scheduling LLM workloads across the marketplace's distributed machine pool.
- Served open-source LLMs via vLLM in custom per-model Docker images; built the marketplace frontend; integrated Solidity smart contracts and the native token into backend payment and metering.

Research Intern (part-time) · MANU — Skopje September 2024 – May 2025

- Built a chatbot for Alzheimer's researchers powered by a hybrid RAG (BM25 + transformer-based dense retrieval) over tens of thousands of peer-reviewed papers and a Neo4j knowledge graph — part of MANU's diagnosis-support system project, under [Prof. Igor Mishkovski](#).

RESEARCH, TALKS & AWARDS

Bachelor's Thesis December 2025

On the Capabilities of Large Language Models for Style Detection and Lyric Generation in the Macedonian Language

- Researched author detection, style extraction, and style transfer on a custom dataset of 36 authors and 1,199 songs of Macedonian poetry; generated 18 synthetic datasets across multiple style-transfer techniques.
- 80% F1 on authorship detection over generated outputs; 70% F1 over real Macedonian poetry.
- Supervised by [Prof. Sonja Gievska](#) and [Prof. Martina Toshevska](#); motivated by personal creative practice in Macedonian poetry.

Guest Lecturer · Faculty of Computer Science and Engineering December 2025

- Guest-lectured the NLP course at FCSE on the Bachelor's thesis findings.

1st Place — RoboMak 2023 (IEEE Macedonia), AI Agents Category May 2023

- Member of Team Polaris; developed AI agents to outperform competitors in a multi-agent challenge.

EDUCATION

BSc in Computer Science — [FCSE](#), Skopje September 2021 – December 2025

SKILLS

Programming Python · TypeScript · React · C++ · Solidity

LLM & NLP LLM orchestration · multi-agent systems · RAG · hybrid retrieval (BM25 + dense) · knowledge graphs · style transfer · low-resource & multilingual NLP

AI Infrastructure vLLM · Google (Gemini) · AWS Bedrock · agentic flows · evaluation

Backend & Distributed Django · FastAPI · Celery · async task processing · REST · microservices · data ingestion pipelines · web scraping

Databases PostgreSQL · MongoDB · Elasticsearch · Neo4j · Supabase · MySQL

Tools & DevOps Claude Code · Obsidian · AWS · Docker · NGINX · Bash · Git

LANGUAGES

English Native · **Macedonian** Native · **Serbocroatian, Bulgarian** Reading · **French** Basic

OUTSIDE WORK

Published Macedonian-language poet, with readings at literary festivals in Macedonia.