

# Ösz György Csongor

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## Summary

Computer Engineering graduate and M.Sc. student in Artificial Intelligence and Vision, specializing in LLM agents, retrieval-augmented generation, and computer vision. Builds production-style Python systems with FastAPI, LangGraph, and Docker, grounded in a hardware/embedded engineering background.

## Education

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| <b>Technical University of Cluj-Napoca</b><br><i>M.Sc. in Artificial Intelligence and Vision</i>                                                                                                                 | 2026 – 2028 (expected)<br>Cluj-Napoca, Romania |
| <ul style="list-style-type: none"><li>Dissertation proposal: multimodal RAG for enterprise knowledge retrieval, combining vision-language models, cross-lingual search, and evaluation.</li></ul>                |                                                |
| <b>University of Oradea</b><br><i>B.Sc. in Computer Engineering (Inginer), 240 ECTS</i>                                                                                                                          | 2020 – 2024<br>Oradea, Romania                 |
| <ul style="list-style-type: none"><li>Thesis: built an Arduino irrigation system with soil-moisture sensing, automatic pump control, and a Bluetooth-connected Android app. <b>Thesis grade: 9/10.</b></li></ul> |                                                |

## Selected Projects

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| <b>Tutor Chatbot</b><br><i>Python, FastAPI, LangGraph, ChromaDB, Next.js</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | GitHub   Live Demo |
| <ul style="list-style-type: none"><li>Built a Socratic tutor with a LangGraph workflow that tracks misconceptions and adapts responses through four levels of hints based on the student's understanding.</li><li>Integrated PDF retrieval using ChromaDB and Hugging Face embeddings, Judge0 code execution, and streamed responses; deployed the backend and frontend on Railway and Vercel.</li></ul>                                                                                                                                                                                                                                            |                    |
| <b>VisionOps Analytics</b><br><i>Python, PyTorch, PostgreSQL, Docker Compose, Grafana</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | GitHub             |
| <ul style="list-style-type: none"><li>Integrated a pretrained Vision Transformer food classifier with PostgreSQL prediction storage and Grafana dashboards to monitor accuracy, confidence, and inference latency.</li><li>Evaluated 10 classes on 220 images (200 Food-101 validation images and 20 manually collected images), recording <b>98.2% accuracy</b>; a 0.70 confidence threshold accepted 210/220 predictions, all correct on this set.</li><li>Generated 50,000 synthetic prediction records to analyse monitoring trends across model versions and locations; provisioned the database and dashboards with Docker Compose.</li></ul> |                    |
| <b>Research Paper MCP Agent</b><br><i>Python, MCP, FastMCP, Groq, arXiv API</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | GitHub             |
| <ul style="list-style-type: none"><li>Built a command-line research assistant with an MCP client that discovers server tools and executes LLM-selected, multi-step calls to search arXiv and retrieve saved paper metadata.</li><li>Implemented typed tool schemas, asynchronous client-server communication over stdio, and topic-based JSON storage for paper metadata and abstracts.</li></ul>                                                                                                                                                                                                                                                   |                    |

## Work Experience

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| <b>Plexus</b><br><i>Software Engineer Intern</i>                                                                                                                                                                                     | Jul 2022 – Sep 2022<br>Oradea, Romania |
| <ul style="list-style-type: none"><li>Built a C#/.NET application and scripts to automate incident, task, and back-office processing; tuned database applications to improve straight-through processing performance.</li></ul>      |                                        |
| <b>iNet Corporation</b><br><i>IT Engineer Intern</i>                                                                                                                                                                                 | Jul 2023 – Sep 2023<br>Oradea, Romania |
| <ul style="list-style-type: none"><li>Supported clients with LAN/WAN networking, firewall and network security issues, and server and desktop troubleshooting, assisted with secure wireless network configuration.</li></ul>        |                                        |
| <b>Tonirad Trans SRL</b><br><i>Shipment Planner</i>                                                                                                                                                                                  | Nov 2024 – Feb 2026<br>Remote          |
| <ul style="list-style-type: none"><li>Owned end-to-end coordination of international shipments and multi-leg route schedules, tracking exceptions in real time and resolving disruptions before they cascaded into delays.</li></ul> |                                        |

## Certifications & Coursework

**Hugging Face:** Agents Course | **DeepLearning.AI / Anthropic:** MCP: Build Rich-Context AI Apps  
**Harvard CS50:** CS50x (Computer Science), CS50P (Python), CS50AI (Artificial Intelligence with Python).  
**Additional coursework:** CS50W (Web Programming with Python and JavaScript), CS50 SQL (Databases).

## Technical Skills

**AI / ML:** PyTorch, TensorFlow, Hugging Face Transformers, Scikit-learn, LangGraph, LangChain, Langfuse, RAG, MCP, ChromaDB, Prompt Engineering, Tool Calling.  
**Backend & Data:** FastAPI, Django, Flask, REST APIs, PostgreSQL, SQL Server, SQL.  
**Languages:** Python, TypeScript, JavaScript, Java, C#, C++, C.  
**DevOps & Cloud:** Docker, GitHub Actions, Git, CI/CD, AWS, Azure, Railway, Vercel.  
**Data & Monitoring:** Pandas, Jupyter, Matplotlib, Grafana, Power BI.  
**Spoken languages:** Hungarian and Romanian (native), English (fluent), German (A2).