Nicola Calzone

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Summary

Engineer with a Master's in AI and Robotics. I build Natural Language Processing systems, Deep Learning models and end-to-end applications, and I enjoy research, teamwork and teaching.

Job Experience

AlfaGroup, *Machine Learning Engineer, Project Contract* Sep 2026 – Present
- Developing machine learning models for the financial sector.

LAIFE Reply, *Full Stack AI Engineer, Project Contract* Dec 2025 – Sep 2026
- Full-stack development of AI-powered features for a healthcare application.

Charles University, *Student Researcher Assistant, Part-Time* Sep 2024 – Jul 2025
- Research on Transformer models and formal grammars.

Unicredit, *Back-end Software Developer, Full-Time (during studies)* Feb 2024 – Sep 2024
- Back-end development and security improvements for a banking application.

Projects

(1) **OpenRussian MCP** [GitHub link] - Unofficial open-source MCP server (Python, SQLite) that gives AI assistants a read-only Russian dictionary, so they can check stress, cases, aspect and verb government instead of guessing. The data is refreshed every month with GitHub Actions.
(2) **WWUAA (World Wide Union of AI Agents)** [Google Drive link] - A platform where AI agents debate political solutions to any topic chosen by the user, in a 3D arena built with Blender. Built with Python, FastAPI, React and three.js, with text-to-speech voices and shareable TikTok-style video clips.
(3) **NetworkAgent** [Google Drive link] - Telegram bot that works as a personal networking memory: after meeting someone, I send a voice or text note, and it saves the contact and later gives me briefings and reminders of who to follow up with. Built with Python, SQLite, an LLM API and local speech-to-text.
(4) **Intelligent Robotic System** [GitHub link] - Robot navigation, object recognition and pick-and-place through ROS, Gazebo.
(5) **Open-Source contribution** [GitHub link] to Natural Language Toolkit to generate and parse SCFGs.

Competitions: Kaggle Agents Competition: Smart Booking Multi-Agent for restaurants, saloons, etc. [GitHub link]; Deep Learning course competitions [GitHub link]

Education

M.Eng. in Computer Engineering, *Universita degli Studi di Padova, Italy* 2022-25
M.Eng. Research Thesis, Erasmus+, *Univerzita Karlova, Prague, Czechia* 2024-25
- Thesis: "Can Transformers Learn SCFGs? An Analysis of Pretraining on Automatically Generated Datasets"
- (1) Acceptor experiment using an Encoder-Only Transformer (BERT-like) with torch to build the model;
- (2) Translator experiment using seq-2-seq Transformer with Fairseq for training, inference and scoring.

High School Diploma, *Liceo Classico P. Giannone, Italy*

Skills

Languages	Italian (Native), English (C1), Spanish (C1), Russian (B2)
Programming	Python (torch, HuggingFace, pandas, FairSeq), Java (Spring Boot, Maven), C, C++ (ROS, OpenCV, Make), SQL, Assembly (MIPS, x86), Matlab, Docker, PostgreSQL
Deployment	CI/CD (Git, GitHub Actions, Jenkins), Google Cloud (Vertex AI), AWS (Bedrock, EC2, S3)
AI & Data	LLMs, Agentic AI (LangChain, MCP, Google ADK), Vector DBs (LanceDB, FAISS), Cloud (GCP, AWS)
Soft Skills	Problem-solving, mentorship and leadership (built and ran a tutoring practice)

Certificates

NVIDIA: Fundamentals of Deep Learning for Computer Vision , Fundamentals of Deep Learning for Multiple Data Types , Fundamentals of Deep Learning for Natural Language Processing; **Kaggle/Google:** AI agents course; **GitHub:** GitHub Foundations; **Anthropic:** Introduction to Model Context Protocol; MCP: Advanced Topics; Introduction to agent skills; Introduction to subagents; Claude Code 101;

Additional Experience

Erasmus Student Network, *Volunteer* Feb 2019–Jan 2020
- Led groups of international students, organized tours and helped with housing.

Freelance Private Teacher, *Tutoring for Calculus, Physics, Programming* Mar 2022–Present
- Built and ran a solo tutoring practice for calculus, Python programming and Italian language.