Bojan Radulović

Residence: Ul. Andree Benussia 5, 51000, Rijeka, Croatia

Permanent address: Selo 67, 52204, Ližnjan, Croatia

Mobile phone: +385 99 8408 258

Email: bojanradulovic27@gmail.com

About me

AI researcher at FIDIT (University of Rijeka) and full-stack developer with hands-on experience building LLM-powered systems: RAG pipelines, vector-search assistants, and autonomous AI agents. Strong foundation in scalable Python backends (FastAPI, Django) and modern frontends (React, React Native), combined with applied NLP work on Croatian speech, text and media data. Experienced with prompt engineering, embeddings, vector databases, and open-source LLMs, and comfortable moving between research-style prototyping and production delivery. Led and mentored a team in building AI-powered automation solutions using RAG and LLM technologies.

Skills

- ✔ Python
- ✔ PyTorch, TensorFlow / Keras
- ✔ Hugging Face Transformers
- ✔ scikit-learn, Pandas, NumPy
- ✔ Zero-shot / few-shot learning
- ✔ MLflow
- ✔ LLMs (local & OpenAI API)
- ✔ LangChain & RAG pipelines
- ✔ Vector databases (FAISS) & embeddings
- ✔ Prompt engineering & NLP
- ✔ React / React Native, JS / TypeScript
- ✔ FastAPI / Django / Flask, PostgreSQL, Docker

Education

- **Faculty of Informatics and Digital Technologies, University of Rijeka (FIDIT) — Master's programme, cum laude** (October 2023 – July 2025)
  Module „Intelligent and Interactive Systems“ with a strong emphasis on AI and machine learning. Relevant courses: Machine and Deep Learning, Computer Vision, Infrastructure for Big Data, NLP methods, Big Data Analytics, MLOps etc.
- **DeepLearning.AI:** Natural Language Processing with Classification and Vector Spaces (December 2022 – February 2023)
- **Faculty of Informatics and Digital Technologies, University of Rijeka (FIDIT) — Bachelor's programme, cum laude** (October 2020 – July 2023)
- **General Gymnasium Pula** (September 2016 – May 2020)

Work Experience

- **Faculty of Informatics and Digital Technologies, University of Rijeka (FIDIT): Researcher** (October 2026 – Present)
  Contributing to the research and development of an AI-powered media monitoring system as part of the MEDIANA project at the Semantic Technologies Laboratory. Developing methods for detecting emerging entities and topics using LLMs, zero-shot and few-shot learning, semantic embeddings, and knowledge

graphs. Preparing and processing large-scale media datasets from heterogeneous sources, and evaluating the methods and validating system prototypes on real-world media data.

- **Ericsson Nikola Tesla: Full Stack Developer** (November 2025 – October 2026)
  Worked on an enterprise software-delivery platform that securely distributes software artifacts from Ericsson to hundreds of customer sites worldwide, in compliance with legal, regulatory, and security requirements. Implemented checksum validation, artifact signing, and compliance checks against applicable laws and regulations. Additionally worked on a node data-collection solution that ingests script packages, parses them, and executes the required scripts to gather and process analytics data from network nodes.
- **Ericsson Nikola Tesla Summer Camp 2026: Mentor** — Digitalisation of student contracts (July 2026 – September 2026)
  Led a team building a full-stack web application (FastAPI + React) that fully digitalises the student-contract process with Studentski centar Zagreb (SC Zagreb). Students can request and receive contracts and log time entries per project, line managers verify and approve the hours, and approved hours are written to the digital contract via the SC Zagreb API. Both parties then sign electronically through the Certilia e-signing broker API, after which the signed contract is delivered back to SC Zagreb digitally, removing the need for physical paperwork, printing, in-person visits, or manual signing.
- **Ericsson Nikola Tesla Summer Camp 2024: Mentor** — Automating report generation using LLMs and RAG technologies (July 2024 – September 2024)
  Led a team of developers in building an AI-powered application that automates the creation of site analysis documents from conversation transcripts using open-source LLMs (e.g., Mistral, Solar) with few-shot prompting.
- **Ericsson Nikola Tesla: Full Stack Developer** (October 2023 – September 2024)
  Developed and maintained a full-stack enterprise application (React, TypeScript, Python, FastAPI) automating end-to-end commercial workflows (quotes, purchase orders, sales orders, invoicing). Implemented backend APIs and business logic, built custom React GUIs, worked with PostgreSQL and Alembic migrations, integrated application workflows with SAP, and containerized services with Docker.
- **Ericsson Nikola Tesla Summer Camp 2023: „Data Engineering and Data Science Application on Speech Recognition and Speech Synthesis Models“** (July 2023 – September 2023)
  Developed Croatian Speech-to-Text and Text-to-Speech systems using Coqui AI, improving speech processing capabilities through data engineering, model fine-tuning, and performance evaluation.
- **Ericsson Nikola Tesla: Internship** — Development of modern communication technologies in commercial applications and industry (March 2023 – June 2023)
  Designed and implemented a chatbot app using the OpenAI API and RAG techniques, with STT and TTS for interactive, voice-enabled answers to University of Rijeka questions.

Projects

- **Master's Thesis: Open-Source AI Agent**
  Developed Lumen, a self-hosted AI agent leveraging Solar LLM, LangChain, SDXL Lightning, Python REPL, and KokoroTTS. Built on a microservice architecture with RabbitMQ, it uses the ReAct (Reasoning + Acting) pattern to dynamically execute tasks with custom tools for image generation, code execution, email handling, and voice responses. Prioritizes privacy, data control, and security through fully open-source infrastructure, with a React frontend and a scalable FastAPI backend.
- **University Chatbot**
  Flask chatbot built with the OpenAI API and RAG techniques, using a FAISS vector store built from PDF documents and scraped website content. Performs similarity search over embeddings to answer university-related questions, with full Speech-to-Text and Text-to-Speech capabilities for interactive, voice-enabled responses.

- **Portfolio Website**
  Fully self-hosted, interactive portfolio website built with Astro and TypeScript, with live in-browser demos and a FastAPI backend whose AI workers run behind RabbitMQ in Docker. Handled the full server setup end to end: Ubuntu and Apache configuration, domain registration, SSL certificate management, dynamic DNS, and SSH remote access.

Research & Writing

- **B. Perak, D. Huljenić, D. Medved, S. Beliga, B. Radulović** — „Creating an AI Assistant for the Faculty of Humanities and the Faculty of Informatics and Digital Technologies“ (2024)
  University–industry collaboration on RAG-based AI assistants for the University of Rijeka (UNIRI CLASS – A3 programme), covering retrieval-augmented generation, multilinguality, and transactional security.
- **T. Madžarac, D. Baričević, B. Radulović** — „Data Engineering and Data Science Application on Speech Recognition and Speech Synthesis Models“ (2023)
  Croatian speech-to-text with the Coqui STT deep-learning framework: dataset construction, model training, parameter tuning, and WER/CER evaluation. Awarded 3rd place, Ericsson Nikola Tesla best student paper award (ICT category).

Other

- **Website:** https://bojan-radulovic.xyz
- **GitHub:** https://github.com/Bojan-Radulovic
- **LinkedIn:** https://www.linkedin.com/in/bojan-radulovi%C4%87-02b2a425a