



# Cosmin Banica

SOFTWARE ENGINEER

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## Education

### TUM School of Computation, Information and Technology

M.Sc. IN DATA ENGINEERING AND ANALYSIS

Munich, Germany

Oct. 2022 - Jan. 2025

### "Politehnica" University of Bucharest

B.ENG. IN COMPUTER ENGINEERING

Bucharest, Romania

Oct. 2018 - Aug. 2022

## Experience

### Infineon

SOFTWARE ENGINEER | AGENTIC SYSTEMS DESIGN

Bucharest, Romania

Oct. 2024 - Present

- **Developing an AI chatbot based on ReAct agents**, used to speed up interaction to various data sources, as well as allow users to perform light tasks on queried data, such as plotting.
- **Improved chatbot explainability** by showing the user what its reasoning is, so that the user can adjust their prompts
- **Developed common framework** for all chatbot usecases, so that development doesn't need to be repeated for each client

### Amadeus Data Processing GmbH

SOFTWARE ENGINEER | METHODOLOGY RESEARCH

Munich, Germany

May 2023 - Aug. 2024

- Worked in a global team to **deliver a tool for measuring software carbon emissions** that could be used by teams company-wide and syncing with the open-source Impact Framework to use their tool for computations.
- Developed new framework for measuring carbon emissions, **following Green Software Foundation principles**
- Lead research into carbon emissions computations that were used in the tool

### HTSS

FULL-STACK .NET DEVELOPER

Bucharest, Romania

Feb. 2021 - Oct. 2022

- **Maintained .NET E-commerce platforms**, working mainly on performance improvements for existing use cases.
- **Added single sign-on functionality** to several linked apps, and optimized page loading >10x, by moving from eager to lazy loading.

## Extracurricular Activity

### Enhancing Software Fuzzing Through Dynamic Instrumentation

RESEARCHER @ FRAUNHOFER INSTITUTE

Munich

May 2024 - Jan. 2025

- Provided performance improvement for LibAFL fuzzing framework, by adding dynamic code instrumentation.
- Worked independently to add to the Rust codebase of the QEMU mode for LibAFL, leveraging its custom address sanitizer.

### EazyNLP

BACKEND DEVELOPER FOR NLP WEB APP

Munich

Sep. 2023 - Apr. 2024

- Web app aimed at providing researchers with text mining and analysis tools, without having to write code.
- Working as part of a team, mainly on the python backend, focusing on improving model execution times, bugfixing, and adding new models.

## Skills

Experienced		>3 years	Python, SQL, .NET/C#, Git, Linux
Knowledgeable		<3 years	Langchain, LLMs, C/C++, Java
Familiar		1 year	Vue.js, Rust, Docker, Matlab
		Languages	English (C2), German (B1), Romanian (Native)