Cosmin **Banica**
SOFTWARE ENGINEER

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Education

TUM School of Computation, Information and Technology	*Munich, Germany*
M.Sc. IN DATA ENGINEERING AND ANALYSIS	*Oct. 2022 - Jan. 2025*
"Politehnica" University of Bucharest	*Bucharest, Romania*
B.ENG. IN COMPUTER ENGINEERING	*Oct. 2018 - Aug. 2022*

Experience

Infineon — *Bucharest, Romania*
SOFTWARE ENGINEER | AGENTIC SYSTEMS DESIGN — *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 — *Munich, Germany*
SOFTWARE ENGINEER | METHODOLOGY RESEARCH — *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 — *Bucharest, Romania*
FULL-STACK .NET DEVELOPER — *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 — *Munich*
RESEARCHER @ FRAUNHOFER INSTITUTE — *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 — *Munich*
BACKEND DEVELOPER FOR NLP WEB APP — *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)