

Ozren Dabić

Software Engineer

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About

I specialize in crafting robust, adaptable solutions with meticulous attention to detail. Although comfortable working as a **full-stack developer**, my focus is primarily on **back-end development** and **infrastructure maintenance**. With a dedication to both code quality and maintainability, I strive to create efficient software that withstands the test of time, offering high configurability and applicability across diverse contexts. Fueled by curiosity, I continuously seek to improve my skills and tackle complex challenges head-on. While I am dedicated and methodical, as demonstrated by my strict adherence to the best practices of **software development**, I do not shy away from creative thinking and exploring unconventional solutions.

Experience

Oct 2024 – **Software Developer**, *JetBrains*, Belgrade, Serbia

Present Working with the Machine Learning Methods in Software Engineering Lab (ML4SE) on developing tools and services that leverage machine learning to improve the productivity of developers.

Oct 2022 – **Research Assistant & Software Engineer**, *Software Institute*, Lugano, Switzerland

Oct 2024 Aiding the Software Analytics Research Team (SEART) in conducting research on the usage of machine learning for automation of software development processes. This includes creating tools for, and conducting empirical studies, while expanding, improving and maintaining various web platforms, applications and libraries created while working with the group.

- Worked on **GitHub Search**, a web platform that continuously mines and analyzes open-source projects on GitHub while providing users with an interface for dynamically generating a dataset by sampling our database based on their specific requirements.
- Orchestrated development of **Data Hub**, a web platform that facilitates large-scale mining of source code from open source projects hosted on GitHub. Researchers can utilize its intuitive interface to define criteria for selecting code and then download the generated dataset in order to train deep learning models that work with code.
- Created **labeler**, a web application with which researchers can quickly set up and perform collaborative manual analysis of text data. It is intended to streamline the process of reviewing instances, resolving conflicts and producing a study report.
- Implemented **Java bindings for tree-sitter and CLOC**. These libraries are used in other projects for performing static analysis on mined source code.
- Established crucial automated infrastructure, including database backups, project dependency updates, code quality checks, and Docker image builds and deployments.

Sept 2019 – **Back-end Developer**, *Ex Machina*, Lugano, Switzerland

Dec 2019 Was part of a small team of developers tasked with extending and maintaining a client-management web platform developed for, and used internally by the Zürich-based venture capital firm Planven Entrepreneur Ventures.

- Elevated platform search capabilities by emphasizing dynamically constructed SQL queries. This enhancement significantly boosted the flexibility of the platform without compromising performance or security.
- Implemented a system that facilitates the tracking of industries, allowing for dynamic addition, removal, and assignment of companies to specific sectors.

Publications

1. **Ozren Dabić**, Emad Aghajani, and Gabriele Bavota. Sampling Projects in GitHub for MSR Studies. In 18th IEEE/ACM International Conference on Mining Software Repositories, MSR 2021, pages 560-564. IEEE, 2021.
2. Rosalia Tufano, **Ozren Dabić**, Antonio Mastropaolo, Matteo Ciniselli, and Gabriele Bavota. Code Review Automation: Strengths and Weaknesses of the State of the Art. IEEE Transactions on Software Engineering, 50(2):338-353, 2024.
3. Rosalia Tufano, Antonio Mastropaolo, Federica Pepe, **Ozren Dabić**, Massimiliano Di Penta, and Gabriele Bavota. Unveiling ChatGPT's Usage in Open Source Projects: A Mining-based Study. In 21st IEEE/ACM International Conference on Mining Software Repositories, MSR 2024. IEEE, 2024.
4. **Ozren Dabić**, Rosalia Tufano, and Gabriele Bavota. SEART Data Hub: Streamlining Large-Scale Source Code Mining and Pre-Processing. In 2024 IEEE International Conference on Software Maintenance and Evolution. IEEE, 2024.

Education

- Sep 2020 – **Master of Science in Software and Data Engineering**,
Oct 2022 *USI - Università della Svizzera italiana*, Lugano, Switzerland, *GPA: 9.66/10*
- Sep 2017 – **Bachelor of Science in Computer Science**,
Jun 2020 *USI - Università della Svizzera italiana*, Lugano, Switzerland, *GPA: 8.25/10*

Academic Supervising

- Spring 2024 **A Platform to Mine Large-Scale and High-Quality Datasets for Code Review Automation**, *Software and Data Engineering Master Thesis*, Christelle Rossier
- Spring 2023 **Sampling Open Source Repositories by Mining Code-related Metrics and Repository Topics**, *Computer Science Bachelor Thesis*, Albert Cerfeda

Skills

- Prog. Lang:** Java, JavaScript, Python, C, Bash, SASS
- Framework:** Spring Boot, Express.js, Vue, Bootstrap
- Databases:** MySQL, PostgreSQL, MongoDB
- Automation:** Maven, Flyway, Liquibase, GitHub Actions
- Analysis:** Jupyter Notebook, Pandas, Bokeh
- Tools:** Git, Docker, Docker Compose, NGINX

Spoken Languages

- | | |
|--------------------|--------------------|
| English: C2 | Serbian: C2 |
| German: B2 | Italian: A1 |

References

Prof. Dr. Gabriele Bavota,
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