

# Milos Ojdanic

Applied Data Science | Software Engineering | Quality Assurance



## About me

Converging towards simplicity. If we can imagine it, we can model it. Passionate about science, learning, discoveries, and implementations of working solutions. Curious about many disciplines from day to day.

*"Simplicity is a great virtue, but it requires hard work to achieve it, and education to appreciate it"*  
Prof. Edsger W. Dijkstra

## Open-Source

<https://github.com/Ojda22>

ORCID: 0000-0001-8213-3381

## Personal web-page

[ojda22.github.io/milos-ojdanic/](https://ojda22.github.io/milos-ojdanic/)

## Contact

✉ milos.ojdanic@uni.lu

✉ milos.ojdanic22@gmail.com

☎ +352 661 315 137

☎ +382 68 673 442

📍 Richard Wagner 23  
2158, Luxembourg City

🌐 milos-ojdanic-401ab3134

📄 Research Gate: Milos Ojdanic

## Languages

🇬🇧 English - Fluent

🇮🇹 Italian - Basic Knowledge

🇩🇪 German - Basic Knowledge

🇲🇪 Montenegrin - Native

## WORK EXPERIENCE

2023-Ongoing	<b>Postdoctoral Scientist</b> <i>Interdisciplinary Center for Security Reliability and Trust</i> GNNs convolutional representation and embedding of source code for predictive analytics and downstream software engineering-related tasks.	📍 Luxembourg City
2019-2023	<b>PayPal Doctoral Researcher</b> <i>Interdisciplinary Center for Security Reliability and Trust</i> The project aimed to continuously optimise the quality of the testing processes at PayPal. We proposed solutions for discovering high-quality tests that increased bug detection by 30%. With supervised learning, we selected and prioritised tests to execute regular and continuous code changes 50-60% faster than baselines. We delivered GNNs solutions that achieved >0.9 ROC AUC of performance for downstream tasks.	📍 Luxembourg City
2017-2018	<b>Full-Stack Software Engineer</b> <i>CoreIT</i> We shipped system integration services for financial institutions. We successfully delivered projects related to services of banking processes such as fraud detection, anomaly detection, loan management strategies, operational intelligence and risk forecasting.	📍 Podgorica, Montenegro
2016-2017	<b>Software Developer</b> <i>Robotdalen (Student intern)</i> Development of an internal intelligent project-management solution. The tool aimed to ease the SCRUM development practice by back-log tracking and easy access to user cards.	📍 Vasteras, Sweden

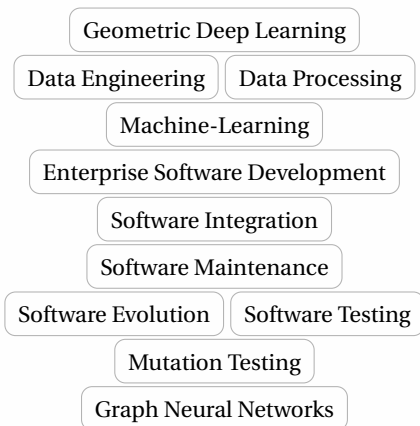
## EDUCATION

2019-2023	<b>PhD Degree</b> <i>University of Luxembourg</i> Degree: Doctor in Computer Science	📍 Luxembourg City
2017-2019	<b>Master Degree</b> <i>Malardalen University</i> Degree: Master in Software Engineering	📍 Vasteras, Sweden
2014-2016	<b>Bachelor Degree</b> <i>Mediterranean University</i> Degree: Bachelor in Information Technology	📍 Podgorica, Montenegro








## PUBLICATIONS (SELECTED)

A* Journal Article 2023	<b>Syntactic Versus Semantic Similarity of Artificial and Real Faults in Mutation Testing Studies</b> , <i>IEEE Transactions on Software Engineering</i> , <a href="#">DOI</a> <b>Abstract:</b> Evidence on the absence of correlation when syntactic features represent code.
A* Conference Article 2023	<b>Keeping Mutation Test Suites Consistent and Relevant with Long-Standing Mutants</b> , <i>ESEC/FSE - ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering</i> , <a href="#">DOI</a> <b>Abstract:</b> A solution to preserve testing adequacy in CI 10x longer than the baselines.
A* Journal Article 2022	<b>Mutation Testing in Evolving Systems: Studying the relevance of mutants to code evolution</b> , <i>ACM Transactions on Software Engineering and Methodology</i> , <a href="#">DOI</a> <b>Abstract:</b> An approach to capture unforeseen dependencies between changed and unchanged code parts and perform efficient regression testing.
A* Journal Article 2022	<b>On the use of commit-relevant mutants</b> , <i>Empirical Software Engineering</i> , <a href="#">DOI</a> <b>Abstract:</b> A technique to detect change-aware artificial code faults suitable for 50-60% more efficient and 30% more effective regression testing.
A* Journal Article 2021	<b>Cerebro: Static Subsuming Mutant Selection</b> , <i>IEEE Transactions on Software Engineering</i> , <a href="#">DOI</a> <b>Abstract:</b> A supervised machine learning approach (RNN Encoder-Decoder machine translation) that statically selects test objectives while requiring 90% fewer test executions than the baselines.

## Professional Skills



## Other Interests

- Open-Source 
- Piano 
- Chess 
- Books 
- Poetry 
- Movies 
- Hiking 
- Cycling 
- Gym 
- Maintaining Blogs (check my webpage)

## Some Sport Achievements

**Winner of Handball Championship**, National League of Montenegro, 2013

**Winner of Handball Cup**, National Cup of Montenegro, 2013

**National Gold Medal Winner**, Mediterranean Handball Championship, Hammamet, Tunisia 2013

**National Gold Medal Winner**, Balkan Handball Championship, Sofia, Bulgaria 2012

**Trophy for the Best right back**, Balkan Handball Championship, Sofia, Bulgaria 2012

## ACADEMIC PEER REVIEWS and COMMITTEES

- Review Committee Member for the **EISEJ**, eInformatica Software Engineering Journal, 2023;
- Artifact Evaluation Review Committee Member for the **ISSTA**, International Symposium on Software Testing and Analysis, 2023;
- Review Committee Member for the **ECRTS**, Euromicro Conference on Real-Time Systems, 2023
- Shadow Committee Member for the **MSR**, International Conference on Mining Software Repositories, 2022;
- Committee Student Volunteers Chair for the **ICSME** International Conference on Software Maintenance and Evolution, 2022;

A member of:

- Association for Computing Machinery (ACM) - Advancing Computing as a Science & Profession
- Finnovation Hub of Interdisciplinary Center for Security Reliability and Trust (SnT) supported by the Ministry of Finance Luxembourg and National Research Fund.

## TEACHING DUTIES

Assistant of a professor in the following courses:

- **Graph Neural Networks**, Winter Semester 2023, Master in Data Science, University of Luxembourg, course by prof. Mike Papadakis
- **Software Testing**, Winter Semesters 2022 2023, Master Studies, University of Luxembourg, course by prof. Mike Papadakis
- **Communication, Processing and Persistence of Information**, Winter Semesters 2022 2023, Master Studies, University of Luxembourg, course by Prof. Yves Le Traon
- **Introduction to Software Testing**, Winter Semester 2021, Bachelor Studies, University of Luxembourg, course by prof. Yves Le Traon

## </> SKILLS (SELECTED)

- **MLOps**
- **Python**
- **Java EE**
- **PyTorch**
- **PyGeometric**
- **Graph Neural Networks**
- **Conda**
- **Shell Programming**
- **AWS**
- **HPC**
- **Unix Systems**
- **Spark**
- **Docker**
- **Matplotlib**
- **RESTful WebServices**
- **Virtualisation**
- **TeX**

## 🌟 CERTIFICATES and RECOGNITION

- Best publication award, AST 2023, Comparing Mutation-Testing Tools through Learning-Based Mutant Selection
- Distinguished paper award, ICSME 2020, Commit-Aware Mutation Testing
- Oxford FinTech Machine Learning Summer School, 2022
- Stanford CS224W: Machine Learning with Graphs, 2021
- Data visualization & statistical graphics
- Red Hat Enterprise Application Development
- JBoss Business Process Management
- Oracle Professional Java EE Developer I
- Oracle Professional Java EE Developer II
- TAROT Summer School on Software Testing
- Cyberwal in Galaxia Program: Cybersecurity winter school
- International School on Software Engineering
- Best Student Volunteer Award, IEEE International Conference on Software Maintenance and Evolution
- Developing Writing Skills at Doctoral Level for Natural and Applied Sciences Researchers