

Academic Curriculum Vitae

Personal Information

Name	Moritz Mock
ORCID	0009-0009-3156-6211
Scopus	https://www.scopus.com/authid/detail.uri?authorId=57699702000
Google Scholar	https://scholar.google.com/citations?user=ogo2kC4AAAAJ
WebOfScience	https://www.webofscience.com/wos/author/record/KBC-8547-2024

Education

Free University Bozen-Bolzano Ph.D. in Advanced-Systems Engineering Project: Intelligent systems for cyber risk mitigation in industry (in collaboration with Würth Phoenix ¹) Supervisor: Prof. Barbara Russo Co-Supervisor: Prof. Andrea Janes	<i>November 2023 - today</i> Bozen-Bolzano, IT
Free University Bozen-Bolzano Laurea magistrale in Software Engineering for Information Systems Title: Detection of self-admitted vulnerabilities with machine learning Supervisor: Prof. Barbara Russo Co-Supervisor: Dr. Jorge Melegati Final Grade: 110 cum laude /110	<i>October 2021 - March 2023</i> Bozen-Bolzano, IT
Free University Bozen-Bolzano Laurea in Computer Science Title: Exploring developers comments to detect weak code Supervisor: Prof. Barbara Russo Final Grade: 85/110 Transferred from the University of Heidelberg	<i>October 2019 - July 2021</i> Bozen-Bolzano, IT

Period Abroad During Studies

Università Svizzera Italiana Supervisor: Prof. Gabriele Bavota	<i>October 2024 - March 2025</i>
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Professional Development

ICSE'25 Student Mentoring Workshop - SMeW ²	<i>April 2025</i> Ottawa, CA
Università degli Studi di Urbino Carlo Bo 23th International School on Foundations of Security Analysis and Design ³	<i>August 2024</i> Bertinoro, IT
Free University Bozen-Bolzano 9th International School on Software Engineering ISE2023 ⁴	<i>July 2023</i> Bozen-Bolzano, IT
Free University Bozen-Bolzano 8th International School on Software Engineering ISE2022 ⁵	<i>July 2022</i> Bozen-Bolzano, IT

¹wuerth-phoenix.com

²<https://conf.researchr.org/track/icse-2025/icse-2025-smew—student-mentoring-workshop>

³sites.google.com/uniurb.it/fosad/home/fosad-2024

⁴seschool-series.github.io/2023

⁵seschool-series.github.io/2022

Professional Experience

Würth Phoenix

Internship for the PhD

February 2024 - August 2024

Bozen-Bolzano, IT

- Enhancing the code quality with static code analysis tools
- Creation of a CI/CD pipeline to foster a continuous testing approach by connecting different sources to detect vulnerabilities in the code
- Gathering knowledge about dynamic testing and attacking software systems
- Technologies used: *GitHub Action*

Free University of Bolzano-Bozen

Commissioned researcher - Supervised by Prof. Barbara Russo

June 2023 - October 2023

Bozen-Bolzano, IT

- Advancing the understanding of state-of-the-art machine learning tools that detect weak code structures and technical debt in code comments
- Design and implementation of an AI tool for detecting vulnerabilities in low-quality code fragments
- Technologies used: *Python, PyTorch*

AboutBits

Curricular internship in collaboration with the Free University of Bozen-Bolzano

July 2022 - September 2022

Freienfeld, IT (Remote)

- Implementation of features in existing client projects
- Technologies used: *Tailwind, React, NextJS*

AboutBits

Internship

July 2021 - September 2021

Freienfeld, IT (Remote)

- Implementation of a design library, a client project, and the addition of features in existing client projects
- Technologies used: *Storybook, Tailwind, React, NextJS*

Akademie der Wissenschaften

Contract of Service - Project 'Theologenbriefwechsel'

August 2019 - December 2020

Heidelberg, DE (Remote)

- Creation of a comprehensible documentation
- Assisting and training the new developers to better understand the code base

Akademie der Wissenschaften

Undergraduate student assistant - Project 'Theologenbriefwechsel'

March 2017 - July 2019

Heidelberg, DE

- Implementation of an application for the management of letter data
- Analysis of the user needs to extract new features and their implementation
- Visualisation of data to extract new pieces of information
- Technologies used: *MongoDB, Express, React, NodeJS, Tomcat*

University of Heidelberg

Undergraduate student assistant - Database and Systems Research Group

August 2016 - February 2017

Heidelberg, DE

- Involvement in the planning of the software architecture for the project 'Theologenbriefwechsel'
- Prototyping an application for the project 'Theologenbriefwechsel'
- Technologies used: *MongoDB, ExpressJS, React, NodeJS*

Publications

Conference Publications

[C-8] **Moritz Mock**, Thomas Forrer, and Barbara Russo. “Cross-Domain Evaluation of Transformer-Based Vulnerability Detection on Open & Industry Data”. In: *PROFES’25 Industry Track*. Awarded Best Industry Paper. Jan. 2025. DOI: 10.1007/978-3-032-12092-2_3. URL: https://doi.org/10.1007/978-3-032-12092-2_3. **Awarded Best Industry Paper**.

[C-7] Barbara Russo, Jorge Melegati, and **Moritz Mock**. “Leveraging Multi-Task Learning to Improve the Detection of SATD and Vulnerability”. In: *33rd International Conference on Program Comprehension (ICPC)*. Mar. 2025, pp. 01-12. DOI: 10.1109/ICPC66645.2025.00017. URL: <https://doi.org/10.1109/ICPC66645.2025.00017>.

[C-6] **Moritz Mock**, Thomas Borsani, Giuseppe Di Fatta, and Barbara Russo. “Optimizing Deep Learning Models to Address Class Imbalance in Code Comment Classification”. In: *International Workshop on Natural Language-Based Software Engineering (NLBSE)*. Apr. 2025, pp. 45-48. DOI: 10.1109/NLBSE66842.2025.00016. URL: <https://doi.org/10.1109/NLBSE66842.2025.00016>.

[C-5] **Moritz Mock**, Jorge Melegati, Max Kretschmann, Nicolás E. Díaz Ferreyra, and Barbara Russo. “MADE-WIC: Multiple annotated datasets for exploring weaknesses in code”. In: *39th IEEE/ACM International Conference on Automated Software Engineering (ASE ’24)*. Artifact badges: available, reusable. Jan. 2024. DOI: 10.1145/3691620.3695348. URL: <https://doi.org/10.1145/3691620.3695348>. For the artifact, two badges (*available* and *reusable* badge) were granted through a second peer-reviewed submission.

[C-4] **Moritz Mock**, Thomas Forrer, and Barbara Russo. “Where do developers admit their security-related concerns?” In: *Agile Processes in Software Engineering and Extreme Programming – Workshops. XP 2024*. Dec. 2024. DOI: 10.1007/978-3-031-72781-8_3. URL: https://doi.org/10.1007/978-3-031-72781-8_3.

[C-3] **Moritz Mock**, Jorge Melegati, and Barbara Russo. “Generative AI for Test Driven Development: Preliminary Results”. In: *Agile Processes in Software Engineering and Extreme Programming – Workshops. XP 2024*. Dec. 2024. DOI: 10.1007/978-3-031-72781-8_21. URL: https://doi.org/10.1007/978-3-031-72781-8_21.

[C-2] **Moritz Mock**. “Utilization of Machine Learning for the Detection of Self-admitted Vulnerabilities”. In: *Product-Focused Software Process Improvement. PROFES 2023*. 2023. DOI: 10.1007/978-3-031-49269-3_15. URL: https://doi.org/10.1007/978-3-031-49269-3_15.

[C-1] Barbara Russo, Matteo Camilli, and **Moritz Mock**. “WeakSATD: Detecting Weak Self-admitted Technical Debt”. In: *19th International Conference on Mining Software Repositories (MSR ’22)*. 2022, p. 6. URL: <https://dl.acm.org/doi/abs/10.1145/3524842.3528469>.

Scientific Boards and Conference Organization

Mining Software Repositories 2026 - MSR’26

Member of the Junior Program Committee
2026.msrconf.org/track/msr-2026-junior-pc

2026

Rio de Janeiro, BR

International Workshop on Mining Software Repositories Applications for Privacy and Security - MSR4P&S - Colocated with SANER’26

Member of the Program Committee
<https://msr4ps.github.io/committee.html>

2026

Limassol, CY

20th European Conference on Software Architecture - ECSA’26

Web Chair
<https://conf.researchr.org/committee/ecs-a-2026/ecs-a-2026-organizing-committee>

2026

Bolzano, IT

5th Intl. Workshop on NL-based Software Engineering - NLBSE’26 - Colocated with ICSE’26

Competition Co-Chair
<https://nlbse2026.github.io/organisation/>

2026

Rio de Janeiro, BR

International Conference on Software Engineering - ICSE'25

2025

Student Volunteering

Ottawa, CA

International Workshop on Mining Software Repositories Applications for Privacy and Security - MSR4P&S - Colocated with SANER'25

2025

Member of the Program Committee

Montréal, CA

<https://msr4ps.github.io/2025/committee.html>**Mining Software Repositories 2025 - MSR'25**

2025

Member of the Junior Program Committee

Ottawa, CA

<2025.msrconf.org/track/msr-2025-junior-pc>**International Conference on Agile Software Development - XP'24**

2024

Student Volunteering

Bozen-Bolzano, IT

AI for Agile Software Engineering (Workshop) - AI4ASE - Colocated with XP'24

2024

Member of the Program Committee

Bozen-Bolzano, IT

Mining Software Repositories 2024 - MSR'24

2024

Member of the Junior Program Committee

Lisbon, PRT

<2024.msrconf.org/track/msr-2024-junior-pc>**Reviewer for Journals****Journal of Systems and Software - JSS**

Papers reviewed in 2025, 2026

Information and Software Technology - IST

Papers reviewed in 2024, 2025, 2026

Third Mission: Interviews, Presentations, and Publications**New Heights for Innovation: Discover Our New Faculty of Engineering!**

January 2025

Bozen-Bolzano, IT

Secure and Simple: Experience Authentication Through Typing Behaviour

Type: Interview — Language: German — Host: RAI Südtirol

Link: <https://www.rainews.it/tgr/tagesschau/notiziari/video/2025/01/Tagesschau—11012025-2000-3fc9875c-fa31-42e1-9291-of8feec70785.html>**New Heights for Innovation: Discover Our New Faculty of Engineering!**

January 2025

Bozen-Bolzano, IT

Secure and Simple: Experience Authentication Through Typing Behaviour

Co-Speakers: Barbara Russo

Type: Presentation — Language: English — Host: Free University of Bolzano, Bolzano, Italy

Link: <https://www.unibz.it/en/home/third-mission/new-heights-innovation/>**SFSCon 2024 - 21th Edition**

November 2024

Bozen-Bolzano, IT

Can Test Driven Development be speeded up with Generative AI

Co-Speakers: Jorge Melegati and Barbara Russo

Type: Presentation — Language: English — Host: Noi Techpark, Bolzano, Italy

Link: <https://www.sfscon.it/talks/can-test-driven-development-be-speeded-up-with-generative-ai/>**Software Developer's Thursday**

July 2024

Bozen-Bolzano, IT

How can we embrace generative AI in collaborative software development?

Co-Speakers: Jorge Melegati and Barbara Russo

Type: Presentation — Language: English — Host: Noi Techpark, Bolzano, Italy

Link: noi.bz.it/en/events/software-developer-s-thursday/3cdfee32-d5ec-405c-84eb-edd52c6ba02a**SFSCon 2023 - 20th Edition**

November 2023

Bozen-Bolzano, IT

Recommending security fixes for weak open-source code with AI

Co-Speakers: Jorge Melegati and Barbara Russo

Type: Presentation — Language: English — Host: Noi Techpark, Bolzano, Italy

Link: sfscon.it/talks/recommending-security-fixes-for-weak-open-source-code-with-ai/

Teaching Experience

Free University of Bolzano-Bozen

Teaching Assistant - Operating Systems

Main lecturer: Prof. Andrea Janes

Hours: 20

October 2024 - August 2025

Bozen-Bolzano, IT

Free University of Bolzano-Bozen

Guest Lecturer for the master class 'Software Maintenance and Evolution'

Invited by: Dr. Jorge Melegati

Title: How to mine software repositories

April 2023, May 2024, December 2024

Bozen-Bolzano, IT

Scholarships and Grants

Travel fund to ICSE'25

Funded by ACM SIGSOFT.

1.000\$

April 2025

Ottawa, CA

Three-year fully funded Ph.D. scholarship at Free University of Bozen-Bolzano.

Funded by the Ministero dell'Università e della Ricerca and Würth Phoenix¹.

Approximately 51.000€

2023 - 2026

Bozen-Bolzano

Projects

TRAC3 - Tracking and Recognizing AI Code Entities

August 2025 - Mai 2026

CINECA HPC class C project

Project owner: Moritz Mock - Participants: Prof. Barbara Russo, Diaeddin Rimawi, Refat T A Othman, and Manuel Zambelli

AGENT - Automatic generation of comments for the detection of technical debt

October 2024 - August 2025

CINECA HPC class C project

Project owner: Dr. Jorge Melegati - Participants: Moritz Mock and Prof. Barbara Russo

DLVUL - Leveraging deep learning to detect vulnerabilities of very large datasets of software artefacts

October 2023 - August 2024

CINECA HPC class C project

Project owner: Prof. Barbara Russo - Participants: Dr. Jorge Melegati and Moritz Mock

Prices won

Noi Hackathon - 24 hours

November 2023

Price: 1000€ for the team.

Link: hackathon.bz.it/project/cosmiccarrots

Language Competence⁶

German Native

English C1 (Certificate issued by the Language Center of the Free University of Bozen-Bolzano, October 2020)

Italian B2 (Certificate issued by the Language Center of the Free University of Bozen-Bolzano, March 2021)

⁶All the obtained certificates follow the *Common European Framework of Reference for Languages (CEFR)* standart.

Voluntary Activities

Free University Bozen-Bolzano

Student Representative in the PhD Council for Advanced-Systems Engineering

May 2024 - April 2025

Bozen-Bolzano, IT

Free University Bozen-Bolzano

Student Representative in the MSc Council for Software Engineering for Information Systems

May 2022 - March 2023

Bozen-Bolzano, IT