

Alex Loitzl

Education

2024 – ... **PhD Candidate, Institute of Science and Technology Austria**

2021 – 2024 **Masters Program Logic & Computation, TU Wien, AT**
Thesis: Modeling Register Pairs in CompCert. Advisor: Florian Zuleger
Runners-up: Best Master Thesis TU Wien Informatics

2018 – 2021 **Bachelors Program Computer Science, Universität Salzburg, AT**
Thesis: 3-valued automata. Advisor: Ana Sokolova

Working Experience

7/23 – 7/24 **Software Engineer, AbsInt Informatik GmbH, Saarbrücken, DE**

Working on the backend of the CompCert Verified C compiler, first during an internship and then a master's thesis project.

- Improve code generation for function prologue and epilogue for CompCert
- Implement a more precise register model and a new register allocator

2020 & 2021 **Software Engineer, Salzburger Banken Software, Salzburg, AT**

Summer internships. Implementing a microservice prototype banking application in Java and deploying it with Kubernetes

Teaching Experience

2019 – 2021 **Teaching Assistant, University of Salzburg**

- *Linear Algebra* 2021: Hold office ours for students and help with homeworks
- *Formal Systems* 2019, 2020: Recitations, working through related problems and grade exams
- *Problem Solving and Algorithmic Thinking* 2019, Give lectures to non-computer scientists about basic problems in computer science

Publications

2024 **Modeling Register Pairs in CompCert [1], iFM24**

Alexander Loitzl, and Florian Zuleger.

Runners-up: Best Paper

References

- [1] Alexander Loitzl and Florian Zuleger. “Modeling Register Pairs in CompCert”. In: *Integrated Formal Methods*. Ed. by Nikolai Kosmatov and Laura Kovács. Cham: Springer Nature Switzerland, 2025, pp. 128–147. ISBN: 978-3-031-76554-4.

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