# Cedric Richter

Research Assistant for learning-based code analysis

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## Education

2021 – present

**Doctoral studies**
Machine Learning for static analysis of software
Carl von Ossietzky University of Oldenburg, Oldenburg

Supervisor: Heike Wehrheim

2019 - 2021

**Doctoral studies**
Machine Learning for static analysis of software
Paderborn University, Paderborn

Supervisor: Heike Wehrheim

2017 - 2019

**M.Sc. in Computer Science**
Paderborn University, Paderborn

Topic: Neural Algorithm Selection for Software Verification
Date: 09 / 2019
Thesis Supervisor: Heike Wehrheim

2014 - 2017

**B.Sc. in Computer Science**
Paderborn University, Paderborn

Topic: Evolutionary Strategies for Timed Game Automata
Date: 10 / 2017
Thesis Supervisor: Heike Wehrheim

| 2014 | **Abitur** |
| | Städtisches Gymnasium Delbrück, Delbrück |

# Scientific profession

| 2021 – present | **Scientific worker** |
| | Carl von Ossietzky University of Oldenburg |
| | FG Wehrheim |
| | Oldenburg |

| 2019 - 2021 | **Scientific worker** |
| | Paderborn University |
| | FG Wehrheim |
| | Paderborn |

| 2016 - 2019 | **Scientific assistant** |
| | Paderborn University |
| | FG Wehrheim |
| | Paderborn |

| 2015 - 2016 | **Student assistant for undergraduate lectures** |
| | Paderborn University |
| | Paderborn |

# Committees

| 2018 - 2024 | **Jury member** |
| | Competition on Software Verification (SV-Comp) |

| 2024 | **Program committee (Shadow PC)** |
| | 47th International Conference on Software Engineering |
| | |
| | **Program committee** |
| | IEEE Secure Development Conference |

**2024**       **Artifact committee**
               46th International Conference on Software Engineering

               **Artifact committee**
               22nd International Conference on Software Engineering and Formal
               Methods

**2023**       **Artifact committee**
               18th International Conference on integrated Formal Methods

               **Artifact committee**
               International Conference on Formal Methods in Software
               Engineering

**2022**       **Artifact committee**
               34th International Conference on Computer Aided Verification

               **Artifact committee**
               25th International Conference on Fundamental Approaches to
               Software Engineering

               **Artifact committee**
               17th International Conference on integrated Formal Methods

**2021**       **Artifact committee**
               ACM SIGSOFT International Symposium on Software Testing and
               Analysis

**2020**       **Artifact committee**
               European Conference on Object-Oriented Programming

**2019**       **Artifact committee**
               13th International Conference on Tests and Proofs

# Publication

**2024**

### Can ChatGPT support software verification?
C.Janßen, **C.Richter** and H.Wehrheim

International Conference on Fundamental Approaches to Software Engineering

### BubaaK-SpLit: Split what you cannot verify
M.Chalupa and **C. Richter**

30th International Conference on Tools and Algorithms for the Construction and Analysis of Systems

### Ranged Program Analysis on Path Ranges
J.Haltermann, M. Jakobs, **C. Richter**, and H.Wehrheim

International Conference on Software Engineering and Formal Methods

**2023**

### How to Train Your Neural Bug Detector: Artificial vs Real Bugs
**C. Richter** and H.Wehrheim

38th International Conference on Automated Software Engineering

### Robustness Testing of Software Verifiers
F.Dyck, **C.Richter** and H.Wehrheim

International Conference on Software Engineering and Formal Methods

### Ranged Program Analysis via Instrumentation
J.Haltermann, M. Jakobs, **C. Richter** and H.Wehrheim

International Conference on Software Engineering and Formal Methods

### Parallel Program Analysis via Range Splitting
J.Haltermann, M. Jakobs, **C. Richter** and H.Wehrheim

26th International Conference on Fundamental Approaches to Software Engineering

**2022**

**Are Neural Bug Detectors Comparable to Software Developers on Variable Misuse Bugs?**
**C. Richter**, J.Haltermann, M. Jakobs, F. Pauck, S.Schott, and H.Wehrheim

37th IEEE/ACM International Conference on Automated Software Engineering

**Learning Realistic Mutations: Bug Creation for Neural Bug Detectors**
**C. Richter** and H. Wehrheim

15th IEEE Conference on Software Testing, Verification and Validation

**TSSB-3M: Mining single statement bugs at massive scale**
**C. Richter** and H. Wehrheim

19th International Conference on Mining Software Repositories

**Construction of Verifier Combinations Based on Off-the-Shelf Verifiers**
D. Beyer, S. Kanav, and **C. Richter**

25th International Conference on Fundamental Approaches to Software Engineering

**2021**

**CoVeriTest with Adaptive Time Scheduling**
M.C. Jakobs and **C. Richter**

24th International Conference on Fundamental Approaches to Software Engineering

**2020**

**Attend and Represent:**
**A Novel View on Algorithm Selection for Software**
**Verification**
**C. Richter** and H. Wehrheim

35th IEEE/ACM International Conference on Automated Software
Engineering

**Algorithm Selection for Software Validation Based on**
**Graph Kernels**

**C. Richter**, E. Hüllermeier, M.C. Jakobs and H. Wehrheim

Journal of Automated Software Engineering 2020

**2019**

**PeSCo: Predicting Sequential Combinations of Verifiers**
**C. Richter** and H. Wehrheim

25th International Conference on Tools and Algorithms for the
Construction and Analysis of Systems