

# Tim Kräuter

PH.D. CANDIDATE · MASTER OF SCIENCE · SOFTWARE ENGINEER

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## Education

### Ph.D. in Computer Science (anticipated completion September 2024)

Bergen, Norway

WESTERN NORWAY UNIVERSITY OF APPLIED SCIENCES

Oct. 2020 - Present

- I am working as a Ph.D. student in model-driven software engineering. I research executable models, such as process models and state machines, to find control-flow errors or inconsistencies. As a result, one can find and fix errors early during development, preventing potential significant costs later in the development process.

### Master of Science in Information Engineering

Hanover, Germany

FHDW HANOVER

Oct. 2018 - Apr. 2020

- GPA: 4.0/4.0, Grade A
- I was studying part-time while working full-time as a Software Engineer at SET GmbH.
- Thesis: Development of semantics for the execution of production processes for the production management of the SET GmbH.

### Bachelor of Science in Business Computing

Hanover, Germany

FHDW HANOVER

Oct. 2015 - Oct. 2018

- GPA: 3.7/4.0, Grade A
- I was studying while working at VHV-Group.
- Thesis: Developing a framework for the automated testing of BPMN processes in the VHV.

## Skills

**Languages** German (native), English (fluent), Norwegian (fluent), French (semi-fluent)

**Programming** Java (Spring, Gradle, Maven), **Typescript & JavaScript** (Angular, Ionic, HTML, CSS, bpmn-js), **Rust** (axum, tokio)

**Programming Concepts** Version Control, Concurrency, OOP, CI/CD (GitHub Actions, Jenkins), Containerization (Azure, GCloud)

## Experience

### Western Norway University of Applied Sciences

Bergen, Norway

PH.D. CANDIDATE IN SOFTWARE ENGINEERING

Oct. 2020 - Present

- During my Ph.D. I developed many tools, mainly using **Java**, **JavaScript**, and **Rust**, as you can see in the projects below.
- I contributed to open-source projects in the **bpmn-js** ecosystem, such as **bpmn-lint**, **bpmn-js-token-simulation** and **diagram-js**.
- I was a lecturer and teaching assistant in a course about **Android development** and **Advanced Software Technologies**, i.e., system integration using web services, shared databases and messaging. The programming languages used were **Java** (back-end) and **JavaScript** (front-end).

### SET GmbH

Hanover, Germany

SOFTWARE ENGINEER

Oct. 2018 - Oct. 2020

- I was part of a team **redesigning** the company's old production management system in **Java**. Before that, we implemented an Android app for one of our customers as a hybrid app based on web technologies. The app is vital to the letter production process and ensures the correct production of thousands of letters daily.

### VHV-Group

Hanover, Germany

STUDENT INTERN

Oct. 2015 - Oct. 2018

- Dual course of study while acquiring a bachelor's degree in business computing. I mainly worked with **Java** to extend the testing framework for our business processes implemented with the Camunda Workflow Engine and automate GUI regression testing with Selenium.

## Projects

### Rust BPMN Analyzer

Bergen, Norway

RESEARCH PROJECT

Nov. 2023 - PRESENT

- I implemented an **analyzer** in **Rust** to automatically **find, display and fix control-flow errors** in a BPMN model by exploring all possible states.

### Visual Debugger

Bergen, Norway

RESEARCH PROJECT

May. 2021 - PRESENT

- I developed an **IntelliJ IDEA plugin** which **visualizes the variables during debugging** as an object diagram which has over **9000 downloads**.

### Smart CoP

Hanover, Germany

PERSONAL PROJECT

Dec. 2019 - PRESENT

- I created an **Android app** and a **progressive web app** for gymnastics, which automatically calculates the difficulty score for gymnastic routines.