

# Robin Ohs

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## EDUCATION

### SAARLAND UNIVERSITY

#### MSC IN COMPUTER SCIENCE

Oct. 2023 | Saarbrücken, Germany

EU: 1.3 | GPA: 3.7/4.0

#### BSC IN CYBER SECURITY

Sep 2020 | Saarbrücken, Germany

## COURSEWORK

### GRADUATE

Automated Debugging

Artificial Intelligence

Data Networks

Embedded Systems

Software Engineering

Space Informatics

Hands-On Dependability with Rust

Side-Channel Attacks and Defenses

Physical-Layer Security

Digital Currencies & Smart Contracts

### UNDERGRADUATE

Functional Programming

Object-oriented Programming

Concurrent Programming

Big Data Engineering

Software Engineering Lab

Cyber Security Project

Algorithms and Data Structures

Web Security

Cryptography

Generating Software Tests

## SKILLS

### LANGUAGES

German (Native)

English (Fluent)

Spanish (Pre-Intermediate)

## ACADEMIC EXPERIENCE

### SAARLAND UNIVERSITY | PHD STUDENT

Oct 2023 - Now | Saarbrücken, Germany

- Research in the field of space networks and sustainable computer systems.
- Implementation of required software in Rust.

### SAARLAND UNIVERSITY | GRADUATE RESEARCH ASSISTANT

Jan 2023 - July 2023 | Saarbrücken, Germany

- Contribution to a Rust library that makes applications resource-efficient.
- Implementation of a system daemon that enables carbon-aware operating systems.

### SAARLAND UNIVERSITY | GRADUATE RESEARCH ASSISTANT

June 2021 - June 2022 | Saarbrücken, Germany

- Implementation of a dynamic simulator for satellite scheduling and energy data processing using Java and the Spring Framework.
- Calculation of satellite orbits and telemetry data using Orekit and two-line elements.

## RESEARCH

### IGSCC 2024 | PAPER

Austin, TX | Saarland Informatics Campus

- **Title:** Dirty Electrons: On the Carbon Intensity of Stored Energy
- We investigated the influence of power supply units and batteries on the carbon intensity of energy used in computer systems. To achieve this, we extended our previous work carbond with a battery tracker and PSU efficiency calculations to enable applications to determine the actual carbon intensity of the system.

### HOT CARBON 2023 | PAPER

Boston, MA | Saarland Informatics Campus

- **Title:** carbond: An Operating-System Daemon for Carbon Awareness
- Together with colleagues from SIC, FAU and RUB, we proposed a Linux daemon service that seeks to make the operating system carbon-aware and thus enable applications to make carbon-aware decisions enabling sustainable decisions.

### DEPENDABLE SYSTEMS AND SOFTWARE | MASTER'S THESIS

April 2023 – Oct 2023 | Saarbrücken, Germany

EU: 1.3 (Seminar) + 1.0 (Writing) | GPA: 3.7/4.0 (Seminar) + 4.0/4.0 (Writing)

- **Title:** Routing in Low-Earth Orbit Constellations: A Performance Comparison
- We developed a simulator for networks that are formed by satellite constellations in Low-Earth Orbit and investigated the performance of different routing algorithms proposed in the literature in terms of achieved delays, congestion control, fault tolerance, and packet delivery performance.