

# Stefan M. Schulz

Vettelschoß, Germany

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## Education

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### University of Bonn

12/2024 - today

PhD, Computer Science

- working under Prof. Matthias Hullin on "Differentiable Scene Representation for 4D/6D Capture, Reconstruction and Synthesis"

### University of Bonn

04/2023 - 10/2024

Master of Science, Computer Science | GPA: 1.4

- Semester abroad at Aalto University, Finland

08/2023 - 01/2024

Relevant Coursework: Quantum Machine Learning, Numerical Algorithms for Visual Computing and Machine Learning, Computer Vision, Lab Physics-based Deep Learning

### University of Bonn

10/2019 - 03/2023

Bachelor of Science, Computer Science | GPA: 1.3 (excellent)

Relevant Coursework: Data-centric Computer Science, Foundations of Artificial Intelligence, Introduction to Data Science, Computational Intelligence, Linear Algebra, Calculus, Introduction to Probability and Statistics, Deep Learning for Visual Computing

### Friedrich-Ebert-Gymnasium, Bonn

09/2011 - 05/2019

Abitur | GPA: 1.4, International Baccalaureate | Points: 35

- Semester abroad at Nanaimo District Secondary School, Vancouver Island, Canada

09/2016 - 02/2017

## Research Experience

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### Research Staff - University of Bonn

12/2024 - today

- Member of the technical team building a new capture and light stage.
- Member of the software team developing code to operate the new capture stage.
- Currently researching on real-time novel view synthesis without per-scene re-training.

### Research Assistant - University of Bonn

03/2024 - 10/2024

- Worked on a program for interactive reconstruction of primitive-based plant structure.

### Research Assistant - University of Bonn

05/2023 - 11/2023

- Worked on image segmentation techniques for automated drusen instance-aware segmentation in OCT-Scans.
- Analyzed characteristics of drusen and checking if these can be categorized into different types.

### Research Assistant - University of Bonn

02/2023 - 10/2023

- Worked on different image inpainting techniques in 3D to reconstruct temporal temperature data from satellites.
- Was responsible for doing literature review, proposal of a suitable method and major implementations.

### Research Assistant - University of Bonn

04/2022 - 10/2022

- Helped building another version of our robots for the university robotics team called „NimbRo“.
- Won the AdultSize Humanoid League as well as the Technical Challenges, and the Best-Humanoid Award at RoboCup 2022.

### Research Assistant - University of Bonn

08/2021 - 10/2021

- Worked on Image-to-Image translation methods for Pose Estimation of Humanoid Robots.

## Publications

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- N. Wandel, **S. Schulz**, R. Klein. Metamizer: a Versatile Neural Optimizer for Fast and Accurate Physics Simulations. *ICLR* 2025
- F. Huber\*, **S. Schulz\***, V. Steinhage. Deep Interpolation of Remote Sensing Land Surface Temperature Data with Partial Convolutions. *Sensors* 2024, 24, 1604.

- D. Pavlichenko, G. ficht, A. Amini, M. Hosseini, R. Memmesheimer, A. Villar-Corrales, **S. M. Schulz**, M. Missura, M. Bennewitz, and S. Behnke. RoboCup 2022 AdultSize Winner NimbRo: Upgraded Perception, Capture Steps Gait and Phase-based In-walk Kicks. In *RoboCup 2022: Robot World Cup XXV*, pages 240–252. Springer, 2023.

\* denotes equal contribution.

## Skills

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**Programming/Technical:** Python, C++, Java, HTML, CSS, PyTorch, TensorFlow, Python scientific libraries (NumPy, SciPy)

**Tools/Software:** git, Docker, **LaTeX**, MS Office

**Languages:** German (mother tongue), English (C1), Spanish (B2), French (B1)

## Professional Experience

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### Teaching Assistant - University of Bonn

09/2025 - today

Technical Informatics

- Preparing exercise sheets.
- Coordinating tutors for the course.

### Teaching Assistant - University of Bonn

04/2025 - 10/2025

Introduction to Computer Graphics & Visualization

- Supervised 1 exercise group (18 students) meeting weekly.
- Graded assignments and exams.
- Gave lectures on lighting models and texturing.

### Teaching Assistant - University of Bonn

12/2024 - 04/2025

Technical Informatics

- Helped grading assignments and exams.

### Tutor - University of Bonn

04/2024 - 10/2024

Computational Intelligence

- Supervised 2 exercise groups (7 & 11 students) meeting weekly.
- Graded assignments and preparing exercise solutions.

### Tutor - University of Bonn

10/2022 - 04/2023

Intelligent Vision Systems

- Supervised 2 exercise groups (6 & 9 students) meeting weekly.
- Graded assignments, explained solutions, and helped correcting all exams.

### Tutor - University of Bonn

04/2022 - 10/2022

Computational Intelligence

- Supervised 2 exercise groups (8 & 11) meeting weekly.
- Graded assignments.
- Prepared exam solutions and helped grading exams.

### Tutor - University of Bonn

09/2021 - 04/2022

Data-centric Computer Science

- Supervised 4 exercise groups (total 9 & 12 & 24 & 24 students) meeting bi-weekly.
- Helped preparing 17 lecture slides and 6 exercise sheets.
- Graded assignments and exams.

### Tutor - University of Bonn

09/2021 - 04/2022

Foundations of Robotics

- Supervised 2 exercise groups (16 & 20 students) meeting weekly.
- Graded assignments and exams

### Internship - SERgroup Holding International GmbH, Bonn, Germany

08/2017 - 08/2017

Intern for Project Development & Project Handling

### Internship - SERgroup Holding International GmbH, Bonn, Germany

08/2016 - 08/2016

Intern for Project Development

## Awards & Scholarships

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| • Deutschlandstipendium | 10/2020 - 10/2021 |
| • Deutschlandstipendium | 10/2021 - 10/2022 |
| • Deutschlandstipendium | 10/2022 - 10/2023 |
| • Deutschlandstipendium | 10/2023 - 10/2024 |

## Volunteering

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| • Member of local youth care<br>–Organization and carryout of multiple summer camps | 05/2018 - 07/2021 |
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## Courses & Certificates

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| <b>Joint Skills Enhancement</b><br>University of Bonn   | 05/2024 - 07/2024 |
| <b>MOOC - Deep Learning Specialization</b><br>deeplearning.ai, Coursera                                       | 07/2020 - 10/2020 |
| <b>MOOC - Natural Language Processing Specialization</b><br>deeplearning.ai, Coursera                         | 07/2020 - 10/2020 |
| <b>MOOC - Machine Learning Specialization</b><br>University of Washington, Coursera                           | 07/2020 - 10/2020 |
| <b>MOOC - Practical Introduction to Deep Learning for Computer Vision</b><br>Hasso-Plattner-Institut, openHPI | 03/2020 - 05/2020 |