Stefan M. Schulz

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Education

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

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

- 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

Programming: Python, C++, Java, HTML, CSS
Tools/Software: git, Docker, LaTeX, PyTorch, Python scientific libraries, OpenGL, Blender
Languages: German (mother tongue), English (C1), Spanish (B2), French (B1)

Professional Experience

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 sudents) 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

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

Volunteering

- Member of local youth care 05/2018 - 07/2021
  - –Organization and carryout of multiple summer camps

Courses & Certificates

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