



# Dr. Daniel Siemssen

daniel@dr-siemssen.de · dr-siemssen.de · github.com/dsiem · linkedin.com/in/dsiem

## Profile

Experienced researcher in mathematical physics, eager to apply his diverse skill set to new challenges in the area of machine learning. Fast learner with strong analytical skills and attention to detail; effective at coming up with innovative and efficient solutions. Reliable team-player with excellent communication skills. Proficient in taking projects from initial ideas to completion. More than 20 years of professional and hobbyist experience in programming.

## Experience

Currently I am working in the area of machine learning and uncertainty quantification. In my previous academic positions, I carried out a continuous research program focussed on quantum field theory in curved spacetimes and associated questions in the theory of differential equations, resulting in 11 peer-reviewed articles and 40+ talks.

- Oct 2021 – present **Postdoctoral Researcher** · *University of Wuppertal, Department of Mathematics*  
Research on deep learning and uncertainty quantifications methods applied to computer vision and sensor fusion problems for autonomous driving.
- Oct 2019 – Sep 2021 **Associate Lecturer in Mathematical Physics** · *University of York, Department of Mathematics*  
Taught classes on quantum information & computing, quantum mechanics, and general relativity. Organised and taught an online course for 200+ international PhD students and researchers. Supervised 11 bachelor and master theses on topics including reinforcement learning, optimisers for deep learning, and quantum algorithms.
- Oct 2018 – Sep 2019 **Interim Professor in Applied Mathematics** · *University of Wuppertal, Department of Mathematics*  
Taught classes on subjects of probability theory, mathematical finance, and mathematical analysis. Managed a team of teaching assistants. Co-supervised a PhD student.
- Oct 2017 – Sep 2018 **Postdoctoral Researcher** · *University of Wuppertal, Department of Mathematics*  
Completed a co-authored research project. Supported lectures and seminars on machine learning. Organised a scientific workshop.
- Oct 2015 – Sep 2017 **Postdoctoral Fellow (FUGA Fellowship)** · *University of Warsaw, Faculty of Physics*  
Managed a two-year research project as principal investigator, and completed the proposed research. Taught exercise classes on topics in mathematical physics. Co-organised a scientific conference.
- Mar 2015 – May 2015 **Postdoctoral Fellow (Riemann Fellowship)** · *University of Hannover, Riemann Center*  
Collaborated with researchers at the Center of Applied Space Technology and Microgravity, Bremen.
- Jan 2003 – Mar 2015 **Freelancer, Web Development and Programming**  
Developed web applications using PHP, Ruby (on Rails) and SQL databases. Designed web pages using HTML, CSS and JavaScript. Contributed to open-source software projects; on GitHub since Feb 2008.
- Aug 2000 – May 2005 **Network & Web Administrator** · *Leibniz-Gymnasium Bad Schwartau*  
Administered the school's network, including the classroom Windows computers and the central Linux server. Developed software, including a content management system and a remote control tool.

## Education

- Feb 2015 **PhD in Mathematics** · *University of Genova (with 6 months at University of York)*  
Thesis: *The Semiclassical Einstein Equation on Cosmological Spacetimes*
- Jun 2011 **Diploma in Physics** · *University of Hamburg (with 1 year at NTNU, Trondheim)*  
Thesis: *Quantization of the Electromagnetic Potential in Asymptotically Flat Spacetimes*

# Dr. Daniel Siemssen

daniel@dr-siemssen.de · dr-siemssen.de · github.com/dsiem · linkedin.com/in/dsiem

## Awards and Achievements

- Published **11 peer-reviewed articles** in leading journals; active reviewer for 5 journals
- Gave **more than 40 talks** to international audiences at conferences and seminars
- Won a two-year **FUGA grant** (65 000 €) from the Polish National Science Centre (NCN)
- Won a three-months **Riemann fellowship** (6 000 €) from the Riemann Center, University of Hannover
- Won a one-month **PROMOS scholarship** (400 €) from the German Academic Exchange Service (DAAD)
- Co-authored a successful **research grant** (163 000 €) from the German Research Foundation (DFG)
- Nominated '**Teacher of the Year**' at the University of York; consistently highly evaluated teaching
- Certified '**Administrator – Computer Network**' by the Chamber of Industry and Commerce Lübeck (IHK Lübeck)

## Skills

- Strong and proven ability to **formulate research problems**, and to **develop innovative solutions**
- Excellent **technical writing skills**, targeting specialist and non-specialist audiences
- Experienced in **presenting to small and large audiences**, in-person and remotely
- Effective at **working independently** and **collaboratively** in dynamic international environments
- Competent in **managing projects** and **teams**
- **Programming languages**: Julia, Mathematica/Wolfram Language, Python
- **Machine learning packages**: PyTorch, TensorFlow
- **Markup languages**: HTML, Markdown, LaTeX
- **Version control systems**: Git
- **Languages**: German – native, English – fluent, Polish – basic, Italian – basic