

# DAVID STUTZ

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## RESEARCH INTERESTS

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Making generative AI safe for billions to use with research on uncertainty estimation, adversarial robustness, out-of-distribution detection, and fairness; previous research on quantization, efficient deployment, 3D reconstruction, image segmentation, and object detection.

## RELEVANT EXPERIENCE

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### Google DeepMind

Senior Research Scientist 11/2023 – today

Research Scientist 04/2022 – 10/2023

*Uncertainty estimation and safety evaluation of generative AI and safety-critical applications in health [1, 2, 3].*

04/2022 – today, London, UK

### MPI for Informatics, Ph.D. Researcher

*Robustness of deep neural networks against adversarial examples [6, 7, 8] and random/adversarial bit errors [5].*

10/2017 – 03/2022, Saarbrücken, GER

### Google DeepMind, Research Scientist Intern

*Uncertainty estimation for medical diagnosis [4].*

04/2021 – 09/2021, London, UK (remote)

### MPI for Intelligent Systems, Research Assistant

*Deep learning for weakly-supervised 3D reconstruction [9].*

01/2017 – 09/2017, Tübingen, GER

### Microsoft, Software Engineering Intern

*Features for “centralized deployment” of Office add-ins.*

07/2016 – 09/2016, Dublin, IRL

### Hyundai MOBIS, Research Engineering Intern

*Evaluation of deep learning for pedestrian detection/tracking.*

04/2016 – 06/2016, Frankfurt am Main, GER

### Fyusion, Research Engineer

*Prototypes for line/keypoint tracking and image segmentation.*

05/2015 – 03/2016, San Francisco, USA (remote)

### VCI, RWTH Aachen University, Research Assistant

*Benchmark for state-of-the-art superpixel algorithms [10].*

05/2015 – 03/2016, Aachen, GER

PREVIOUSLY:

**MATHCCES, RWTH Aachen**, Tutor 2013 – 2014

**RS Computer**, Web Developer 2009 – 2016

**Fraunhofer FKIE**, Web Developer 2011 – 2012

## PROJECTS & SKILLS

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OPEN-SOURCE on GitHub and BLOG davidstutz.de  
*More than 100 repositories with >6k stars and >2.7k forks.*

SELECTED SKILLS: Python (Jax, NumPy, PyTorch), C/C++ (CUDA), L<sup>A</sup>T<sub>E</sub>X (PGFPlots, TikZ), SQL, PHP, JavaScript/CSS/HTML, Bash, Linux

Last updated: November 17, 2023.

## EDUCATION

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### MPI for Informatics & Saarland University

Ph.D. Computer Science, *summa cum laude*

10/2017 – 03/2022, Saarbrücken, GER

### RWTH Aachen University

M.Sc. Computer Science, GPA: 1.0/1.0 (*w/ Distinction*)

B.Sc. Computer Science, GPA: 1.1/1.0 (*w/ Distinction*)

10/2011 – 09/2017, Aachen, GER

### Georgia Institute of Technology

Graduate Exchange Student, GPA: 4.0/4.0

01/2015 – 05/2015, Atlanta, USA

## SELECTED AWARDS & HONORS

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DAGM MVTEC Dissertation Award 2023

Heidelberg Laureate Forum 2023

ICML/CVPR/NeurIPS Top Reviewer 2020 – 2022

CVPR AML-CV Workshop Outstanding Paper 2021

Heidelberg Laureate Forum 2019

Qualcomm Innovation Fellowship 2019

STEM Award IT 2018

RWTH Aachen Springorum-Denkmünze 2018

Hans Hermann-Voss Scholarship 2015

Germany Scholarship 2014 – 2017

RWTH Aachen Dean’s List 2012 – 2017

## SELECTED PUBLICATIONS

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- [1] *Identifying AI-generated content with SynthID.* deepmind.com/synthid.
- [2] *Conformal prediction under ambiguous ground truth.* TMLR’23.
- [3] *Evaluating AI systems under uncertain ground truth: a case study in dermatology.* ArXiv’23.
- [4] *Learning Optimal Conformal Classifiers.* ICLR’22.
- [5] *Random and Adversarial Bit Error Robustness: Energy-Efficient and Secure DNN Accelerators.* TPAMI’22.
- [6] *Relating Adversarially Robust Generalization to Flat Minima.* ICCV’21.
- [7] *Confidence-Calibrated Adversarial Training.* ICML’20.
- [8] *Disentangling Adversarial Robustness and Generalization.* CVPR’19.
- [9] *Learning 3D Shape Completion under Weak Supervision.* IJCV’20.
- [10] *Superpixels: An Evaluation of the State-of-the-Art.* CVIU’18.

More on Google Scholar.

## ACADEMIC ACTIVITIES

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REVIEWING: TMLR, CVPR, ICCV/ECCV, NeurIPS, AAAI, ICLR, JMLR, ICML, CV-COPS, KDD AdvML, SIGGRAPH, TIP, TPAMI, IJCV, AISTATS,

VOLUNTEERING: Max Planck PhDNet, DeepMind scholarship mentor

RECENT TALKS: UCL, Penn, Vanderbilt University, HT Berlin, Dataiku, MPI MiS/UCLA, TU Dortmund, IBM Research, Qualcomm, University of Tübingen, Bosch AI (more)