

# Malte Tölle



Glünderstr. 3  
30167 Hannover



[malte.toelle@gmail.com](mailto:malte.toelle@gmail.com)



+49 157 34677867



[@maltetoelle](#)



[@maltetoelle](#)



[maltetoelle.github.io](https://maltetoelle.github.io)

## EDUCATION

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10/19 – present	<b>M.Sc. in Mechanical Engineering</b> , Leibniz University Hanover (LUH) Master Thesis: A Bayesian Perspective on Deep Image Prior
10/17 – present	<b>M.Sc. in Biomedical Engineering</b> , LUH Master Thesis: A Bayesian Perspective on Deep Image Prior
02/16 – 06/16	Semester Abroad, <b>Chung-Ang University, Seoul</b> , South Korea
10/14 – 09/17	<b>B.Eng. Mechanical Engineering</b> , DHBW Mosbach <i>Specialization</i> : Construction and Development, <i>Grade</i> : 1.4 (ECTS Grade A)
08/06 – 07/14	<b>High School Diploma</b> , Michelsenschule Hildesheim <i>Specialization</i> : Mathematics and Natural Sciences, <i>Grade</i> : 1.6
09/12 – 12/12	Stay abroad, <b>German International School, Cape Town</b> , South Africa

## MASTER THESIS

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Title	<b>A Bayesian Perspective on Deep Image Prior</b> ( <a href="#">Github Link</a> )
Advisor	Prof. Dr.-Ing. Tobias Ortmaier, M.Sc. Max-Heinrich Laves
Abstract	Deep learning based models for image restoration (e.g. denoising or super-resolution) can lead to false features that are indistinguishable from real ones in the reconstructed images. To overcome these issues the Bayesian techniques are used, which impose distributions on the model's parameters, and by this enable the quantification of per-pixel reconstruction uncertainty.

## WORK EXPERIENCE

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10/19 – 03/20	Internship in Vision department at <b>Yuanda Robotics GmbH</b> Algorithms and applications for vision tasks in the industrial cobot domain (object localization and pose estimation, optical character recognition, UI programming)
04/19 – 09/19	Student Assistant at <b>Institute for Mechatronic Systems</b> at LUH Research on (Variational) Autoencoders
03/19 - present	External Lecturer at <b>DHBW Mosbach</b> Supervision of student theses

10/17 – 09/19	Internship and student assistant at <b>Institute for Multiphase Processes</b> , LUH Research on electrospinning of artificial shoulder tendons and heart pumps, programming and construction of microcontroller based collectors
07/14 – 09/17	Corporate Student at <b>Robert Bosch GmbH</b> and <b>EM-Motive GmbH</b> , Hildesheim Projectmanagement, production planning, process engineer for electric motors in cars

## TECHNICAL SKILLS

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Programming	Python, Matlab, C++, JavaScript, TypeScript (PyTorch, Tensorflow, SciPy, NumPy, scikit-learn, OpenCV, Jupyter Lab, SpaCy, Flask, React, Node)
CAD	Siemens NX, Solid Works, Solid Edge, Inventor
Microsoft Office	Word, PowerPoint, Excel, OneNote, Teams

## ACHIEVEMENTS

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10/18 – present	Scholarship <b>Louis Schuler Fonds</b> for outstanding and social committed students
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## PUBLICATIONS

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MICCAI 2020 (Workshop)	Max-Heinrich Laves, <b>Malte Tölle</b> , Tobias Ortmaier (2020). <b>Uncertainty Estimation in Medical Image Denoising with Bayesian Deep Image Prior</b>
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## LANGUAGES

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German	Native Language
English	Expert, fluent in word and writing

## VOLUNTEER EXPERIENCE

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01/20 – present	Volunteer at the pan-European party VOLT Preparation for federal election
08/19 – present	Volunteer at Students for Future Development of labeling system for CO <sub>2</sub> emissions in the canteen
10/17 – 03/19	Development of website for gathering all offerings in Hildeheim beneficial for the integration of refugees ( <a href="#">GitHub Link</a> )

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