Eric Brachmann
Senior Staff Scientist
Niantic Spatial
ericbrachmann@gmail.com

Degrees:

Dr. rer. nat. (PhD equivalent) at TU Dresden, 2018
in the field of computer vision and machine learning
advised by Prof. Gumhold (TU Dresden) and Prof. Rother (University Heidelberg)
awarded with *Summa Cum Laude*

Diplom (Master equivalent) at TU Dresden, 2012
in media computer science
passed with distinction

Research Background:

Since 2025	Researcher at Niantic Spatial
2020 - 2025	Researcher at Niantic
2019 - 2020	Guest at the Leibnitz Universität Hannover in the group of Prof. Rosenhahn
2017 - 2020	Research Associate in the VL Lab of Prof. Rother at University Heidelberg
2017 - 2018	Guest at the Center for Systems Biology Dresden in the group of Florian Jug
09/2016 - 11/2016	Research Visit, Microsoft Research Cambridge (Host: Sebastian Nowozin)
2012-2017	Research associate and PhD student at TU Dresden, partly Computer Graphics and Vizualisation Lab of Prof. Gumhold, partly Computer Vision Lab Dresden of Prof. Rother
2006 - 2012	Studies of media and computer science at TU Dresden

Research Community Service:

Area Chair:
- CVPR 25/26
- ECCV 24
- WACV 24

Outstanding Reviewer:
- CVPR 19
- NeurIPS 19 (Top 400)
- ICCV 21

Reviewer:
- CVPR 18/19/20/21/22
- ICCV 19/21/23/25
- ECCV 18/22
- NeurIPS 19/25
- TPAMI 18/19/20/21/22/23/24
- IJCV 18
- JMLR 19
- ICRA 18/19/20/21/23
- IROS 17/18/19/20/21/22/23
- RA-L 17/19/20/21/23
- T-RO 20/23
- GCPR 15/17/18

Mentor:
- Doctoral Consortium, ICCV 25

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Tutorials and Workshops:

Co-Organizer of Visual Localization Tutorials at
- ECCV 18,
- ICCV 19/21,
- CVPR 23

Co-Organizer of the RANSAC in 2025 Tutorial
- ICCV 25

Co-Organizer of the Intl. Workshop on Recovering 6D Object Pose (R6D), 5^{th}-10^{th} edition,
- ICCV 19/23/25,
- ECCV 20/22/24

Co-Organizer of the Map-free Visual Relocalization Workshop and Challenge
- ECCV 24

Talks:

"Mapping With Scene Coordinate Regression. Making it: Fast, Self-supervised, Generalize"
- Multi-modal Localization and Mapping, ICCV Workshop, 2025

"Learning Relative Pose Estimation End-to-end"
- Camera Calibration and Pose Estimation, ICCV Workshop, 2025

"Pushing the Boundaries of Structure-from-motion with Machine Learning"
- 49th Pattern Recognition and Computer Vision Colloquium, CTU Prague, 2025
- IMAGINE Seminar, ENPC Paris, 2025
- heidelberg.ai, 2025

"*Scene Coordinate Regression -*
Reimagining Structure-from-Motion without Image-to-Image Matching"
- Guest Lecture in Advances in Computer Vision class, MIT 2025
- Guest Lecture in Geometry-based Methods in Vision class, CMU 2024

"*Reimagining Structure-from-Motion without Image-to-Image Matching*"
- DFKI Augmented Vision Workshop 2024

"*Metric Depth for Instant AR*"
- Third Monocular Depth Estimation Challenge, CVPR Workshop, 2024

"*Learning Map Representations for Visual Relocalization*"
- UIUC Vision External Speaker Series, 2023

"*Pose Estimation Beyond Feature Matching*"
- Image Matching: Local Features & Beyond, CVPR Workshop, 2023

"End-to-End Learning of Robust Model Fitting"
- FiveAI Vision Seminar, 2020

"Robust Pose Estimation Made Differentiable"
- International Workshop on Recovering 6D Object Pose, ICCV Workshop, 2019

"Learning Robust Model Fitting"
- Workshop on Geometry Meets Deep Learning, ECCV Workshop, 2018

"Scene Coordinate Regression: From Random Forests to End-to-End Learning"
- Workshop on Learnable Representations for Geometric Matching, CIIRC Prague, 2017

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Awards:

2018	**Nominated for GI Dissertation Award 2018 by the TU Dresden** (each university in Germany, Austria and Switzerland nominates one computer science dissertation for the award, annually)
2014	**ACCV Honorable Mention Demo Award** (for our paper: Learning Analysis-by-Synthesis for 6D Pose Estimation in RGB-D Images)
2012	**Enno Heidebroek Award** (awarded to the best graduates of the engineering department of the TU Dresden)
2008 - 2012	**Scholarship of the German National Academic Foundation** (awarded based on academic performance, extracurricular interests, and social commitment)
2008	I**BM Award** (awarded to students with an exceptional intermediate diploma)

Teaching Experience:

Preparation of lectures for *Computer Vision I* (Prof. Rother, TU Dresden, 2015-2017), *Reconstructing and Understanding the 3D World* (Prof. Rother, Heidelberg University, 2018); **organizing and conducting exercises** accompanying *Computer Graphics I* (Prof. Gumhold, TU Dresden, 2013-2017); **supervisor of numerous Diploma, Master and Bachelor theses** with focus on computer vision and machine learning, **conducting practical courses and seminars** with focus on computer vision and robotics

Publications:

Please see my website or Google Scholar for an up-to-date list.