Eric Brachmann
Staff Scientist
Niantic
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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 2020	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

Reviewing Activities:
- Area Chair: CVPR 25, 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, ECCV 18/22, NeurIPS 19, TPAMI 18/19/20/21/22/23, 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

Tutorials and Workshops:
- Co-Organizer of Visual Localization Tutorials at ECCV 18, ICCV 19/21, CVPR 23
- Co-Organizer of the International Workshop on Recovering 6D Object Pose (R6D), 5^{th}-9^{th} edition, ICCV 19/23, ECCV 20/22/24
- Co-Organizer of the Map-free Visual Relocalization Workshop and Challenge, ECCV 24

Talks:
- "*Scene Coordinate Regression - Reimagining Structure-from-Motion without Image-to-Image Matching*"
  Guest Lecture in Advances in Computer Vision class, MIT 2025
- *"Pushing the Boundaries of Structure-from-motion with Machine Learning"*
  IMAGINE Seminar, ENPC Paris, 2025
- "*Scene Coordinate Regression - Reimagining Structure-from-Motion without Image-to-Image Matching*"
  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

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 to students with exceptional 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.