



## COSMIN I. BERCEA

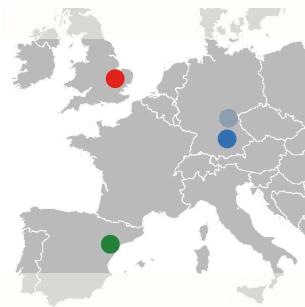
Senior Researcher  
Machine Learning / Vision



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German, Romanian: Native  
English: Fluent

## EDUCATION



### TUM TECHNICAL UNIVERSITY OF MUNICH

1.12.2020 - 31.05.2024 (Dr. rer. nat. COMPUTER SCIENCE) - MUNICH, GERMANY

[Prof. Dr. Julia Schnabel](#), [Prof. Dr. Daniel Rückert](#)

- Deep Generative Models for Unsupervised Anomaly Detection in Medical Imaging

### KING'S COLLEGE LONDON

2023 (VISITING RESEARCHER) - LONDON, UK

[Dr. Andrew King](#), [Dr. Esther Puyol-Antón](#)

- Biases in unsupervised learning

### FAU UNIVERSITY ERLANGEN-NUREMBERG

2011 - 2018 (B/M.Sc., COMPUTER SCIENCE) - ERLANGEN, GERMANY — GRADE 1.6

[Prof. Dr. Andreas Maier](#)

- Pattern recognition and medical image analysis

### UAB UNIVERSITAT AUTONOMA DE BARCELONA

2016 (EXCHANGE SEMESTER; M.Sc. CS) - BARCELONA, SPAIN

- Deep learning and computer vision

*"I am a postdoctoral researcher at the Technical University of Munich (TUM), working at the intersection of machine learning and medical imaging. I develop generative and multimodal models for detecting and reasoning about previously unseen anomalies to support the identification of rare and early-stage diseases"*

2025		Organizing Team and Program Chair @MedEurIPS	
2025		Session and Area Chair @MICCAI	
2025		Lead Organizer @MICCAI EMERGE Workshop	
2025		Co-organizer @MICCAI MOOD Challenge	
since 2025		Scientific Event Officer @MICCAI Student Board	
2024-2026 (1Y   6M)	Postdoc.	TUM      Generative AI   Vision Language Models   Anomaly Detection	<a href="#">Prof. Dr. Julia Schnabel</a> , <a href="#">Prof. Dr. med. Benedikt Wiestler</a> <a href="#">Munich, DE</a>
since 2020		Reviewer @MICCAI, TMI, MEDIA	
2020-2024 (3Y   5M)	Ph.D.	Helmholtz / TUM      Deep Generative Models for Unsupervised Anomaly Detection	<a href="#">Prof. Dr. Julia Schnabel</a> , <a href="#">Prof. Dr. Daniel Rückert</a> <a href="#">Munich, DE</a>
2018-2020 (2Y)	Engineer	Bosch Research      Machine Learning for Vision for Autonomous Driving	<a href="#">Dr.-Ing. Niklas Beuter</a> <a href="#">Hildesheim, DE</a>
2017-2018 (1Y   7M)		Siemens Healthineers      Machine Learning for Medical Imaging	<a href="#">Dr.-Ing. Florin C. Ghesu</a> <a href="#">Erlangen, DE</a>
2016 (6M)		Computer Vision Center      Machine Learning for Action Recognition	<a href="#">Prof. Dr. Petia Radeva</a> <a href="#">Barcelona, ES</a>
2013-2017 (2Y   10M)	Research Assistant	Fraunhofer IIS      Machine Learning and Virtual Reality	<a href="#">Dr.-Ing. Christopher Mutschler</a> <a href="#">Nuremberg, DE</a>

## LEADERSHIP AND TEACHING @TUM

### AI in Medicine Course Tutor

- since 2023

### Seminar Lead

- Vision-Language Models since 2024

### Seminar Lead

- Unsupervised Anomaly Detection since 2022

### Supervising

- Master's Theses & Guided Research Projects in AI

## SELECTED PUBLICATIONS

- 📄 **Cosmin I. Bercea et al.:** "NOVA: A Benchmark for Anomaly Localization and Clinical Reasoning in Brain MRI.", *NeurIPS* 2025.
- 📄 **Cosmin I. Bercea et al.:** "Evaluating normative representation learning in generative AI for robust anomaly detection in brain imaging." *Nature Communications*, 2025.
- 📄 **Cosmin I. Bercea et al.:** "Mask, Stitch, and Re-Sample: Enhancing Robustness and Generalizability in Anomaly Detection through Automatic Diffusion Models." *ICML W. (IMLH)*, 2023.
- 📄 **Cosmin I. Bercea et al.:** "Reversing the Abnormal: Pseudo-Healthy Generative Networks for Anomaly Detection." *Lecture Notes in Computer Science, MICCAI*, 2023.
- 📄 **Cosmin I. Bercea et al.:** "Federated disentangled representation learning for unsupervised brain anomaly detection." *Nature Machine Intelligence*, 2022.

**Munich, 2026, Cosmin I. Bercea**

