



"I am an AI researcher specialised in interpretable machine learning and vision, with industry experience in the automotive and medical domains. Passionate about driving innovation in machine intelligence, I am keen to tackle new challenges and contribute to pioneering advancements in AI."

COSMIN I. BERCEA

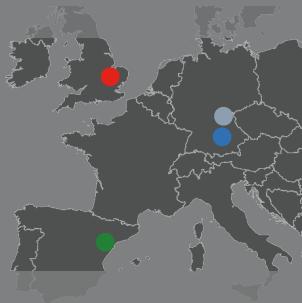
Researcher
Machine Learning / Vision



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Romanian, German: Native
English: Fluent

EDUCATION



TUM TECHNICAL UNIVERSITY OF MUNICH

2020 - 2024 (Dr. RER.NAT. COMPUTER SCIENCE)
- MUNICH, GERMANY

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

- Interpretable machine learning in medical image analysis

KING'S COLLEGE LONDON

2023 (VISITING RESEARCHER) - LONDON, UK

[Dr. Andrew King](#), [Prof. Dr. Julia Schnabel](#)

- Biases in unsupervised representation 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

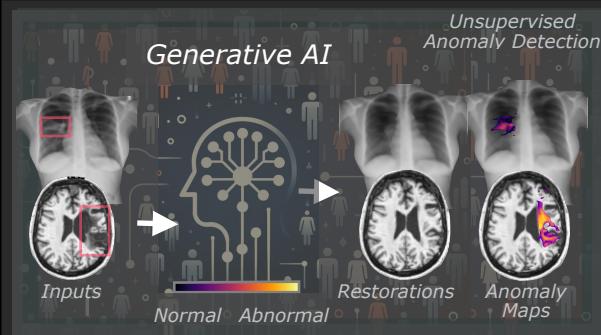
UAB UNIVERSITAT AUTONOMA DE BARCELONA

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

- Deep learning and computer vision

WORK EXPERIENCE

TUM / Helmholtz Center Munich



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

Machine Learning for Universal Unsupervised Anomaly Detection in Medical Image Analysis.

Munich, DE

2020-2024 (3Y | 4M)

Doctoral Researcher ML

Research Intern ML/VR

2013-2017 (2Y | 10M)

Fraunhofer IIS

[Dr.-Ina Christopher Mutschler](#)

Machine Learning and Virtual Reality

Nuremberg, DE

Research Intern CV/ML

2016 (6M)

Computer Vision Center

[Prof. Dr. Petia Radeva](#)

Machine Learning for Action Recognition

Barcelona, ES

Research Intern ML

2017-2018 (1Y | 7M)

Siemens Healthineers

[Dr.rer.nat. Olivier Pauly](#),
[Dr.-Ing. Florin C. Ghescu](#)

Machine Learning for Medical Imaging Analysis

Erlangen, DE

Bosch Corporate Research



[Dr.-Ing. Niklas Beuter](#)

Machine Learning for Vision for Autonomous Driving, e.g., Perception.

Hildesheim, DE

2018-2020 (2Y)

Research Engineer CV/ML

LEADERSHIP AND TUTORING @TUM

AI in Medicine Course Tutor

- Part I & II (2023 SoSe & WiSe)

Federated Learning Seminar Tutor

- (2021 WiSe & SoSe)

Seminar Lead

- Unsupervised Anomaly Detection (2022 WiSe, 2023 SoSe, WiSe)

Supervising

- Master's Theses & Guided Research Projects in AI

SELECTED PUBLICATIONS / PATENTS

Cosmin I. Bercea et al.: "Mask, Stitch, and Re-Sample: Enhancing Robustness and Generalizability in Anomaly Detection through Automatic Diffusion Models." *International Conference on Machine Learning (ICMLH)*, 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.: "Generalizing Unsupervised Anomaly Detection: Towards Unbiased Pathology Screening." *Proceedings of Machine Learning Research, MIDL*, 2023.

Cosmin I. Bercea et al.: "Federated disentangled representation learning for unsupervised brain anomaly detection." *Nature Machine Intelligence*, 2022.

Cosmin I. Bercea.: "Tracking of multiple objects using neural networks, local memories, and a shared memory." US20220309681A1, 2022.

Alexander Lengsfeld, Lucas Drumond, and Cosmin I. Bercea.: "Method and device for monitoring the condition of the occupants in a motor vehicle." DE102021202790A1, 2021.

Philipp Lenz, Alexander Lengsfeld, Lucas Drumond, and Cosmin I. Bercea.: "Method for operating a vehicle control system." DE102019215625A1, 2019.

