



Prof. Dr.-Ing. habil. Marcin Grzegorzek

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UNIVERSITÄT ZU LÜBECK



Deutsches Forschungszentrum
für Künstliche Intelligenz
German Research Center for
Artificial Intelligence

Scientific Fields

Artificial Intelligence

Machine Learning

Pattern Recognition

AI for Health

Selected Functions

→ Scientific Director of the Research Department AI for Assistive Health Technologies at DFKI **Lübeck**

→ Full Professor and Head of the Medical Data Science Lab at the University of **Lübeck**

→ Co-Founder of expandAI GmbH based in **Lübeck**

Academic Employment and Degrees

Since 07/2024 **Scientific Director** — Research Department AI for Assistive Health Technologies — DFKI **Lübeck**

Since 10/2018 **Full Professor (W3)** — Institute of Medical Informatics — University of **Lübeck**

10/2016 – 09/2018 **Senior Lecturer (A14)** — Research Group for Pattern Recognition — University of **Siegen**

01/2014 **Habilitation** in Pattern Recognition — AGH University of Science and Technology in **Kraków**

10/2010 – 09/2016 **Assistant Professor (W1)** — Research Group for Pattern Recognition — University of **Siegen**

03/2008 – 09/2010 **Research Assistant** — Institute for Web Science and Technologies — University of **Koblenz-Landau**

04/2007 **Doctorate with Distinction** in Pattern Recognition — University of **Erlangen-Nürnberg**

07/2006 – 02/2008 **Research Assistant** — Multimedia & Vision Research Group — Queen Mary University of **London**

12/2002 – 06/2006 **Doctoral Student** — Pattern Recognition Lab — University of **Erlangen-Nürnberg**

11/2002 **M.Sc.** in Computer Science — Silesian University of Technology in **Gliwice**

Selected Publications

Google Scholar: <https://scholar.google.de/citations?user=afSJW1IAAAAJ&hl=en>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=6504608152>

Web of Science: <https://www.webofscience.com/wos/author/rid/AAF-1647-2021>

1. Xinyu Huang, Franziska Schmelter, Muhammad Tausif Irshad, Artur Piet, Muhammad Adeel Nisar, Christian Sina, and Marcin Grzegorzek. Optimizing Sleep Staging on Multimodal Time Series: Leveraging Borderline Synthetic Minority Oversampling Technique and Supervised Convolutional Contrastive Learning. *Computers in Biology and Medicine (Elsevier, IF: 7.0)*, 166, November 2023. DOI: 10.1016/j.combiomed.2023.107501.
2. Naoki Takashima, Frédéric Li, Marcin Grzegorzek, and Kimiaki Shirahama. Embedding-Based Music Emotion Recognition Using Composite Loss. *IEEE Access (IEEE, IF: 3.9)*, 11, April 2023. DOI: 10.1109/ACCESS.2023.3265807.
3. Cong Yang, Zhenyu Yang, Yan Ke, Tao Chen, Marcin Grzegorzek, and John See. Doing More With Moiré Pattern Detection in Digital Photos. *IEEE Transactions on Image Processing (IEEE, IF: 10.6)*, 32:694–708, January 2023. DOI: 10.1109/TIP.2022.3232232.
4. Muhammad Hassan Khan, Muhammad Shahid Farid, and Marcin Grzegorzek. Vision-based Approaches towards Person Identification Using Gait. *Computer Science Review (Elsevier, IF: 12.9)*, 42, November 2021. DOI: 10.1016/j.cosrev.2021.100432.
5. Xinyu Huang, Kimiaki Shirahama, Frédéric Li, and Marcin Grzegorzek. Sleep Stage Classification for Child Patients Using DeConvolutional Neural Network. *Artificial Intelligence in Medicine (Elsevier, IF: 4.383)*, 110, November 2020. DOI: 10.1016/j.artmed.2020.101981.

Selected Projects

1. MoveGroup: Junior Research Group – Integration and Analysis of Multimodal Sensor Signals for Investigating Neurological Movement Disorders. **Main Applicant and Overall Coordinator**. German Federal Ministry of Education and Research (BMBF). 10/2021 – 09/2026. Overall Budget: 1,431,000 €.
2. KIBA: AI-Assisted Movement Analysis and Therapy. **Main Applicant and Overall Coordinator**. European Regional Development Fund. 01/2022 – 06/2023. Overall Budget: 1,340,000 €.
3. CogAge: Cognitive Village – Adaptively Learning Technical Assistance for Elderly. **Main Applicant and Overall Coordinator**. German Federal Ministry of Education and Research (BMBF). 09/2015 – 11/2018. Overall Budget: 3.615.000 €.
4. INDICATE-FH: Improving Diagnostics and Therapy of Food Hypersensitivity. Principal Investigator and Leader of the Subproject “Digital Marker: Wearable-based Food Hypersensitivity Recognition”. German Federal Ministry of Education and Research (BMBF). 07/2021 – 06/2024.
5. My-AHA: My Active and Healthy Ageing. Principal Investigator and Leader of the Work Package “Data Fusion and Analytics”. European Commission, Horizon 2020. 01/2016 – 03/2020.
6. GRK 1564: Research Training Group 1564 “Imaging New Modalities”. Principal Investigator Leader of the Subproject “Multimodal Scene Analysis”. German Research Foundation (DFG). 10/2010 – 09/2018.

Supervised Doctorates

1. Toni Fetzer. Advanced Sensor Fusion Methods with Applications to Localization and Navigation. 09/2024.
2. Sylwia Henselmeyer. Short-Term Load Forecasting Using Machine Learning Methods. 05/2024.
3. Philip Gouverneur. Machine Learning Methods for Pain Investigation Using Physiological Signals. 04/2024.
4. Muhammad Tausif Irshad. Investigation of Physical and Mental States Using Machine Learning. 04/2024.
5. Raoul Hoffmann. Analysing Data from Capacitive Floor Sensors for Human Gait Assessment Using ANNs. 09/2023.
6. Xinyu Huang. Sensor-Based Sleep Stage Classification Using Deep Learning. 11/2022.
7. Muhammad Adeel Nisar. Sensor-based Human Activity Recognition for Assistive Health Technologies. 06/2022.
8. Frédéric Li. Deep Transfer Learning for Time-series Classification. 09/2021.
9. Frank Ebner. Smartphone-Based 3D Indoor Localization and Navigation. 09/2020.
10. Ahmad Delforouzi. New Approaches for Object Tracking and Image-based Quality Control. Exam: 07/2020.
11. Muhammad Hassan Khan. Human Activity Analysis in Visual Surveillance and Healthcare. 09/2018.
12. Lukas Köping. Probabilistic Fusion of Multiple Distributed Sensors. 09/2018.
13. Sergey Kosov. Multi-layer Conditional Random Fields for Revealing Unobserved Entities. 07/2018.
14. Zeyd Boukhers. 3D Trajectory Extraction from 2D Videos for Human Activity Analysis. 09/2017.
15. Cong Yang. Object Shape Generation, Representation and Matching. 09/2016.
16. Christian Feinen. Object Representation and Matching Based on Skeletons and Curves. 03/2016.
17. Chen Li. Content-based Microscopic Image Analysis. 02/2016.