Curriculum Vitae – Marius Bock

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Academic Experience

02/2021 - curr.	**PhD in Computer Science** *Supervisors*: Prof. Dr. Michael Moeller & Prof. Dr. Kristof Van Laerhoven *Title*: On the complementarity of video and inertial data for Human Activity Recognition	University of Siegen, GER
11/2024 – 3/2025	- **Visiting PhD Student in Computer Science** *Supervisor:* Prof. Dr. Cecilia Mascolo	University of Cambridge, GB
09/2018 - 11/2020	**M.Sc. in Data Science** *Final Grade:* (1.4 / 1.0) with honors *Supervisor*: Prof. Dr. Margret Keuper *Title*: Multiple Object Tracking by Link Prediction using Graph Convolution Networks	University of Mannheim, GER
10/2013 - 09/2017	**B.Sc. in Information Systems** *Final Grade:* (1.5/ 1.0) with distinction (top 5%)	University of Cologne, GER
06/2017 - 09/2017	- **Student Researcher** Funded under DAAD RISE Worldwide *Supervisors*: Prof. Dr. Jakub Szefer & Prof. Dr. Ali Sunyaev	Yale University, USA
09/2015 - 12/2015	- **Exchange semester** *Final Grade*: (4.0/ 4.0)	University of Seoul, KOR

Selected Publications*

* All first author publications and peer-reviewed.

2024	**WEAR: An Outdoor Sports Dataset for Wearable and Egocentric Activity Recognition** **Marius Bock**, Hilde Kuehne, Kristof Van Laerhoven, Michael Moeller. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 8(4), 175.
2024	**Temporal Action Localization for Inertial-based Human Activity Recognition** **Marius Bock**, Michael Moeller, Kristof Van Laerhoven. Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies, 8(4), 174.
2024	**Weak-Annotation of HAR Datasets using Vision Foundation Models** **Marius Bock**, Kristof Van Laerhoven, Michael Moeller. Proceedings of the ACM International Symposium on Wearable Computers
2021 **[best paper award]**	**Improving Deep Learning with Shallow LSTMs** **Marius Bock**, Alexander Hoelzemann, Michael Moeller, Kristof Van Laerhoven. Proceedings of the ACM International Symposium on Wearable Computers

Other Publications*

* Authors are ordered by their contribution. **Authors contributed equally

2025	**Label Leakage in Federated Inertial-based Human Activity Recognition** **Marius Bock****, Maximilian Hopp**, Kristof Van Laerhoven, Michael Moeller Preprint. CoRR abs/2505.20924.
2025	**DeepConvContext: A Multi-Scale Approach to Timeseries Classification in Human Activity Recognition.** **Marius Bock**, Michael Moeller, Kristof Van Laerhoven Preprint. CoRR abs/2505.20894.
2024	**Basketball Shooting Performance Analysis Using Multi-Modal Wearable and Mobile Sensing in Semi-Naturalistic Settings** Sixuan Wu, Alexander Hoelzemann, **Marius Bock**, Kristof Van Laerhoven, Thomas Ploetz, Alexander T. Adams Proceedings of the IEEE 20th International Conference on Body Sensor Networks
2023	**A Data-Driven Study on the Hawthorne Effect in Sensor-Based Human Activity Recognition** Alexander Hoelzemann**, **Marius Bock**,** Ericka Andrea Valladares Bastias, Salma El Ouazzani Touhami, Kenza Nassiri, Kristof Van Laerhoven Adjunct Proceedings of the ACM International Joint Conference on Pervasive and Ubiquitous Computing & the ACM International Symposium on Wearable Computing
2023	**Hang-Time HAR: A Benchmark Dataset for Basketball Activity Recognition using Wrist-worn Inertial Sensors** Alexander Hoelzemann, Julia Romero, **Marius Bock**, Kristof Van Laerhoven, Qin Lv. Sensors, 23(13), 5879.
2022	**Investigating (Re)current State-of-the-Art in Human Activity Recognition Datasets** **Marius Bock**, Alexander Hoelzemann, Michael Moeller, Kristof Van Laerhoven. Frontiers in Computer Science, 4, 924954.
2022	**A Public Repository to Improve Replicability and Collaboration in Deep Learning for HAR** Lloyd Pellatt**, **Marius Bock****, Daniel Roggen, Kristof Van Laerhoven. IEEE Proceedings of International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events.
2021	**Tutorial on Deep Learning for Human Activity Recognition** **Marius Bock**, Alexander Hoelzemann, Michael Moeller, Kristof Van Laerhoven. Full day tutorial at ACM International Joint Conference on Pervasive and Ubiquitous Computing and ACM International Symposium on Wearable Computers.

Comittees

2024 – curr.	**Technical Program Committee** ACM International Symposium on Wearable Computers
2025 – curr.	**Technical Program Committee** UbiSense: Emerging Techniques in Ubiquitous Sensing and Interaction
2024 – curr.	**Organizing Committee** International Workshop on Human Activity Sensing Corpus and Applications (HASCA); Organizer of WEAR Dataset Challenge @HASCA
2023	**Student Volunteer Chair** ACM International Joint Conference on Pervasive and Ubiquitous Computing and ACM International Symposium on Wearable Computers, Cancun, Mexico

Scholarships & Awards

2021	**ISWC Best Paper Award** for paper "Improving Deep Learning for HAR with Shallow LSTMs" at ACM International Joint Conference on Pervasive and Ubiquitous Computing and ACM International Symposium on Wearable Computers 2021
2021 – 2024	**House of Young Talents - Young Academy** 3-year funded PhD scholarship, awarded to by the House of Young Talents at University of Siegen
2025	**1st Prize ZESS PhD Research-Forum Lightning Talks** awarded for lightning talk given at the annual ZESS PhD Research-Forum in Siegen
2021	**ZESS Stipend Award** 6-month PhD scholarship, awarded to by the Center for Sensor Systems (ZESS) at University of Siegen
2020	**W&W Prize for Outstanding Master Thesis** awarded to by the DWS group at the University of Mannheim
2017	**DAAD RISE Worldwide** 3-month funded research internship at foreign university
2015	**Dean's List Award** awarded to top 5% of students at the WiSo faculty at the University of Cologne

Invited Talks

2025	**On the Complementarity of Video and Inertial Data for Human Activity Recognition** At Google Inc., London
2023	**Temporal Action Localization for Inertial-based Human Activity Recognition** At Chair of Prof. Michael Beigl (Karlsruhe Institute of Technology)
2023	**WEAR: An Outdoor Sports Dataset for Wearable and Egocentric Activity Recognition** At Chairs of Prof. Cecilia Mascolo and Prof. Carola Schönlieb (University of Cambridge)

Teaching & supervised theses (selection)

Course [WS 2022]	**Deep Learning** Teaching Assistant, Lecture for computer science and mechanical engineering master students (50 participants)
Master Thesis [WS 2024]	**Differential Privacy for Human Activity Recognition** Maximilian Hopp
Master Thesis [SS 2024]	**AI-based Unsupervised Defect Recognition for Image Data from Automative Series Manufacturing** Hruday Kumar Kolla (co-supervised by Robert Bosch GmbH, GER)
Master Thesis [WS 2022]	**Optimizing Human Activity Data Collection through Machine-Learned Activity-Wise Skips for Minimum Prediction Performance Loss** Sanjeev Kumar
Master Thesis [WS 2022]	**Video Hand Detection** Lara Verena Breuer (co-supervised by Virtual Retail GmbH, GER)

| Seminar
[since SS 2022] | **Recent Advances in Machine Learning**
Organizer, Seminar for computer science and mechanical engineering master students (15 participants) | |
| Seminar
[SS 2021 - WS 2024] | **Seminar in Data Science**
Organizer, Seminar for computer science and mechanical engineering bachelor and master students (15 participants) | |

Professional experience (selection)

01/2018 - 06/2018	**Internship in Cyber Security Services** Supervisors: Joerg Asma & Adil Mansoor	PwC GmbH, GER
04/2017 - 12/2017	**Working student in Data Science** Supervisor: Glenn Neuber	SAP SE, GER
08/2016 - 02/2017	**Internship in Business Analysis/ Development** Supervisor: Glenn Neuber	SAP Australia Pty. Ltd., AUS

University of Siegen, Siegen, June 16, 2025