KEVIN WILKINGHOFF

kevin.wilkinghoff@ieee.org — www.wilkinghoff.com — Google Scholar — LinkedIn

I am a postdoctoral researcher at Aalborg University with the Pioneer Centre for AI. My work focuses on anomaly and out-of-distribution detection, representation learning, and domain generalization for audio signals. My long-term research vision is to develop robust, domain-generalizable anomaly detection systems that can operate with minimal supervision across diverse audio and multimodal environments.

RESEARCH INTERESTS

Anomaly and out-of-distribution detection

Representation learning for audio and multimodal signals

Domain generalization and robustness

EDUCATION

Ph.D. (Dr.rer.nat.) in Computer Science (summa cum laude), University of Bonn, Germany 2022–2024

M.Sc. in Computer Science (with distinction), University of Bonn, Germany 2014–2017

B.Sc. in Mathematics, University of Münster, Germany 2010–2014

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher, Aalborg University with Pioneer Centre for AI, Aalborg, Denmark 2025–present

Visiting Research Scientist, Mitsubishi Electric Research Laboratories, Cambridge, MA, USA 2024–2025

Research Associate, Fraunhofer FKIE, Wachtberg, Germany 2017–2024

GRANTS AND AWARDS

Compute Grant for the *LUMI Supercomputer*, Grant Holder, DeiC (12,000 GPUh) 2026

Conference Grant for the *1st MMAD Workshop*, Grant Holder, Carlsberg Foundation (78,600 DKK) 2026

P1 Program on *Multimodal Anomaly Detection*, Program Director, Pioneer Centre for AI (50,000 DKK) 2025–2027

Best Paper Award (DCASE 2021, single author) 2021

PUBLICATIONS

35+ peer-reviewed publications, including two TASLP journal articles and several ICASSP papers

SELECTED PUBLICATIONS

[1] **K. Wilkinghoff**, H. Yang, J. Ebbers, F. G. Germain, G. Wichern, and J. Le Roux. "Local Density-Based Anomaly Score Normalization for Domain Generalization". In: *IEEE Trans. Audio, Speech, Lang. Process.* 33 (2025).

[2] **K. Wilkinghoff**. "Self-Supervised Learning for Anomalous Sound Detection". In: *Proc. ICASSP*. 2024.

[3] **K. Wilkinghoff** and K. Imoto. "F1-EV Score: Measuring the Likelihood of Estimating a Good Decision Threshold for Semi-Supervised Anomaly Detection". In: *Proc. ICASSP*. 2024.

[4] **K. Wilkinghoff** and F. Kurth. "Why do Angular Margin Losses work well for Semi-Supervised Anomalous Sound Detection?" In: *IEEE/ACM Trans. Audio, Speech, Lang. Process.* 32 (2024).

[5] **K. Wilkinghoff**. "Sub-Cluster AdaCos: Learning Representations for Anomalous Sound Detection". In: *Proc. IJCNN*. 2021.

COMMUNITY SERVICE

Workshop Organizer for the *1st Multimodal Anomaly Detection Workshop*

Area Chair for IJCNN 2025-2026

Reviewer for TASLP, TPAMI, SPL, ICASSP, Interspeech, WASPAA, EUSIPCO, ASRU, IJCNN, DCASE, and others

TEACHING AND SUPERVISION

Supervised 4 M.Sc. theses, 3 lab projects, and 2 seminar talks; delivered 3 substitute lectures at graduate level