

Preface

1st Workshop on Sustainability and Resource-Efficiency of Artificial Intelligence (SuRE 2026)

These are the proceedings of the 1st Workshop on Sustainability and Resource-Efficiency of Artificial Intelligence (SuRE 2026), held on 17 August 2026 in Bremen, Germany, in conjunction with the 35th International Joint Conference on Artificial Intelligence (IJCAI 2026).

Recent progress in artificial intelligence has been driven by the rapid scaling of data, models, and compute, most prominently in large language and multimodal models. This trend comes with growing energy, resource, and environmental costs that are increasingly hard to ignore, and only a small number of academic and industrial laboratories can afford to train or routinely deploy cutting-edge large models. Sustainability of AI is therefore not only a matter of preserving natural resources and limiting environmental impact, but also a prerequisite for enabling further iterations, breakthroughs, and broad access to AI technologies. SuRE 2026 focuses on the sustainability of AI systems across their lifecycle, with a particular emphasis on data-, compute-, and energy-efficient methods that scale to real-world deployments, and on moving from qualitative discussions of "Green AI" toward quantitative and reproducible methodology.

Topics

The workshop invited contributions covering all aspects of efficient and sustainable AI, including but not limited to the following topics:

- Data- and label-efficient learning under resource constraints, including theoretical analyses and empirical studies.
- Leveraging underutilized or unconventional data sources to reduce data and compute demands.
- High-performance-computing machine-learning pipelines, including energy-, resource-, hardware-, and time-efficient perception and inference.
- Efficient multimodal AI, including exploiting complementary modalities for efficiency (e.g., adaptive modality selection, sensor scheduling, shared representations).
- Sustainable re-use, adaptation, and life-cycle management of ML models, including fine-tuning of large foundation models, in-context and test-time learning, continual learning, and federated learning.
- Metrics, methodologies, and tools for measuring and evaluating efficiency and sustainability in ML (e.g., budgeted performance under energy, compute, or data constraints; carbon accounting; standardized reporting; benchmarks).

- Applications, including the design, deployment, and evaluation of efficient models on edge and mobile devices, for example case studies in industrial, agricultural, mobility, healthcare, and other real-world environments.
- Sustainable hardware and materials, including algorithm–hardware co-design, low-power accelerators, and environmentally responsible hardware life-cycles.
- Ethical, socio-economic, and socio-cultural aspects of sustainable AI, such as equity of access, environmental justice, governance, and policy implications.

Review Process

The workshop solicited submissions in three tracks: full papers (archival, up to 7 pages plus references), short papers (non-archival, up to 4 pages plus references), and position papers (non-archival, up to 2 pages plus references). All submissions were required to follow the official SuRE formatting guidelines and underwent double-blind peer review. Each submission received at least 2 independent reviews from members of the program committee. Papers were assessed on novelty and relevance to efficient and sustainable AI, technical soundness and methodology (including evaluation), potential impact, and clarity of presentation. Based on the reviews, 6 full papers and two short papers were accepted for inclusion in these archival proceedings. Authors of accepted full and short papers were given the option to opt in to archival publication via CEUR-WS.org.

Important Dates

- Submission deadline (all tracks): 22 May 2026
- Notification of acceptance: 8 June 2026
- Camera-ready deadline: 30 June 2026
- Workshop day: 17 August 2026

Organizing Committee

- Vitor Fortes Rey — DFKI and RPTU University Kaiserslautern-Landau, Germany
- René Schuster — DFKI and RPTU University Kaiserslautern-Landau, Germany
- Niklas Baumgarten — Heidelberg University, Department of Mathematics, Germany
- Sungho Suh — Korea University, Republic of Korea
- Tobias Christian Nauen — DFKI and RPTU University Kaiserslautern-Landau, Germany

Program Committee

- Ramy Battrawy — DFKI, Germany
- Katharina Bending — RPTU University Kaiserslautern-Landau, Germany
- Ettore Barbagallo — RPTU University Kaiserslautern-Landau, Germany
- Stanislav Frolov — DFKI, Germany

- Daniel Geißler — DFKI and RPTU University Kaiserslautern-Landau, Germany
- Vinit Vikas Hegiste — RPTU University Kaiserslautern-Landau, Germany
- Rahul Jakkamsetty — RPTU University Kaiserslautern-Landau, Germany
- Jakob Karolus — DFKI and RPTU University Kaiserslautern-Landau, Germany
- Sarah Keren — Technion – Israel Institute of Technology, Israel
- Lars Krupp — DFKI and RPTU University Kaiserslautern-Landau, Germany
- Tatjana Legler — RPTU University Kaiserslautern-Landau, Germany
- Paul Lukowicz — DFKI, Germany
- Vishal Sharbidra Mukunda — RPTU University Kaiserslautern-Landau, Germany
- Shishir Muralidhara — DFKI, Germany
- Vladimir Rybalkin — RPTU University Kaiserslautern-Landau, Germany
- Aheli Saha — RPTU University Kaiserslautern-Landau, Germany

Acknowledgments

This workshop was sponsored by the Carl Zeiss Foundation via the Sustainable Embedded AI (SEmbAI) project. We thank the members of the program committee for their careful reviews, the authors for their contributions, and the IJCAI 2026 organizers for hosting the workshop.

The Editors, Vitor Fortes Rey, René Schuster, Niklas Baumgarten, Sungho Suh, and Tobias Christian Nauen August 2026