

Janin Koch



My research interests lie in collaborative AI for Creativity. In my work, I aim to define, study, and evaluate human-machine interaction to construct concepts together with intelligent machines. With the belief that computers and humans have distinct skills to add to such a collaboration, I use knowledge from psychology, design and machine learning to enable systems to act on a human-equal stand.

Academic Publications

Journals

ImageSense: An Intelligent Collaborative Ideation Tool to Support Diverse Human-Computer Partnerships

Koch, J./ Taffin, N./ Beaudouin-Lafon, M./ Laine, M./ Lucero, A./ Mackay, W. E. | 2020
Proc. ACM Human-Computer Interaction (CSCW)

International Conference Papers

Identifying Interaction Dimensions and their Relation to Agent Behavior in Human-AI Teams

Lobo I./ Koch J./ Renoux J./ Batina I./ Prada R. | 2026
ACM Conf. on Intelligent Virtual Agents (IVA)

How Hyper-Datafication Impacts the Sustainability Costs in Frontier AI

Wilson, S./ Mair, S./ Okinyi, M./ Dam, E. / Koch, J./ Selvan, R. | 2026
ACM Conf. on Fairness, Accountability, and Transparency (FAccT)

DesignTrace: Exploring, Iterating and Tracking Design Alternatives with GenAI

Peng, X./ Haldar, D./ Mackay, W. E./ Koch, J. | 2026
ACM Conf. on Human Factors in Computing Systems (CHI)

FusAIIn: Composing Generative AI Visual Prompts Using Pen-based Interaction

Peng, X./ Koch, J./ Mackay, W. E. | 2025
ACM Conf. on Human Factors in Computing Systems (CHI)

"Should I choose a smaller model?": Understanding ML Model Selection and Its Impact on Sustainability

Ben Chaaben, E./ Koch, J./ Mackay, W. E. | 2025
ACM Conf. on Human Factors in Computing Systems (CHI)

DesignPrompt: Using Multimodal Interaction for Design Exploration with Generative AI

Peng, X./ Koch, J./ Mackay, W. E. | 2024
ACM Conf. on Designing Interactive Systems (DIS)

When Should I Lead or Follow? Understanding Initiative Levels in Human- AI Collaborative Gameplay.

Lobo I./ Koch J./ Renoux J./ Batina I./ Prada R. | 2024
ACM Conf. on Designing Interactive Systems (DIS)

SemanticCollage: Enriching Digital Mood Board Design with Semantic Labels

Koch, J./ Taffin, N./ Lucero, A./ Mackay, W. E. | 2020
ACM Conf. on Designing Interactive Systems (DIS)

May AI? Design Ideation with Cooperative Contextual Bandits

Koch, J./Lucero, A./Hegemann, L./ Oulasvirta, A. | 2019
ACM Conf. on Human Factors in Computing Systems (CHI)

Aalto Interface Metrics (AIM): A Service and Codebase for Computational GUI Evaluation.

Oulasvirta, A./ De Pascale, S./ Koch, J./ Langerak, T./ Jokinen, J./ Todi, K./... & Palmas, G. | 2018 ACM Symposium on User Interface Software and Technology Adjunct Proceedings (UIST)

Browsing for Inspiration: Digital Material in Current Design Practice

Koch, J./ Lucero, A./ Oulasvirta, A./ Laszlo, M | 2018
Proceedings of the Design Research Society (DRS)

Design implications for Designing with a Collaborative AI

Koch, J. | 2017
Position Paper, AAAI Spring Symposium

Computational Layout Perception using Gestalt Laws

Koch, J./ Oulasvirta, A. | 2016
Extended Abstract, ACM Conf. on Human Factors in Computing Systems (CHI)

Book Chapters

Group Cognition and Collaborative AI

Koch, J./ Oulasvirta, A. | 2018
Book chapter in 'Human and Machine Learning: Visible, Explainable, Trustworthy and Transparent', Springer

Other Peer-Reviewed Publications (selected)

Workshop Organizer

The Role of Design in the Future of Human-AI Interaction

Koch, J./ Schmidt, A./ Mackay, W.E. | 2025
Accepted Workshop proposal, ACM AAR '25

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Integrating AI in Human- Human Collaborative Ideation

Shin, J./ Koch, J./ Lucero, A./ Dalsgaard, P./ Mackay, W.E. | 2023
Accepted Workshop proposal, ACM CHI

Where Art Meets Technology: Integrating Tangible and Intelligent Tools in Creative Processes

Koch, J./ Pearson, J./ Lucero, A./ Sturdee, M./ Mackay, W.E./ Lewis, M./ Robinson, S F. | 2020
Accepted Workshop proposal, ACM CHI

Advising Experiences

PhD students

Eya Ben Chaaben | 2022 - 2025
Exploring Human-AI Collaboration and Explainability for Sustainable ML, Inria Saclay, France

Xiaohan Peng | 2023 -
Designing Interactive Human-Computer Drawing Experiences, Université Paris-Saclay, France

Kaiwen Zhou | 2025 -
Using AI as Design Material: Exploring the potential of GenAI for Design Practice, Université de Lille, France

Xiaohan (Hannah) Liao | 2025 -
Co-Creating with AI: Using AI as a Creative Partner in Design Teams, Inria Lille, France

Co-Advisor

Sophia Natasha Wilson | 2025 -
Glean: Towards Green and Lean Data in the Era of Big Data, Copenhagen University, Denmark

Master theses academic advisor | 2019-2025
Bachelor theses academic advisor | 2017-2019

Teaching Experience

Advanced Design of Interactive Systems (Lecturer)
Université Paris-Saclay, FR | 2023-2026

Advanced Design of Interactive Systems (TA)
Université Paris-Saclay, FR | 2020-2023

Design of Interactive Systems (TA+Lecturer)
Université Paris-Saclay, FR | 2020-2024

User Research (TA + Lecturer)

Aalto University, FI | 2016 - 2020
2 Lectures: 'Large scale text analysis' (NLP) and 'Information visualization'

Computational Design (TA + Lecturer)

Aalto University, FI | 2016 - 2019
2 Lectures: 'Modern user interface design methods' and 'Human-AI Cooperation'

Research Grants and Projects

SustainML (grant No 101070408) | 2022 - 2025
HCI coordinator
Horizon Europe research grant on Application Aware, Life-Cycle Oriented Model-Hardware Co-Design Framework for Sustainable, Energy Efficient ML Systems: 7 partners, 4M Euro funding
Using human-centered design techniques, we aim to develop system that enable users to make more life-cycle-oriented decisions to promote sustainable, energy-efficient ML systems.

ALMA (grant No 952091) | 2020 -2024
HCI contributor
EU Horizon 2020 research grant on 'Human Centric Algebraic Machine Learning'
Explore and develop new creative applications facilitated by algebraic machine learning. This includes the development of new interaction and evaluation methods to enable human-computer explainability.

HumanE AI Net (grant No 952026) | 2019 -2024
Member
EU Horizon 2020 network of excellent grant 'Toward AI Systems That Augment and Empower Humans by Under-standing Us, our Society and the World Around Us'
EU-funded project brings together leading European research centres, universities and industrial enterprises into a network of centres of excellence. I am involved in projects on agency in Human-AI collaboration.

Glean | 2024 -2028
External collaborator
The Independent Research Fund Denmark (DFF) funded our project Glean: Towards Green Lean Data in the Era of Big Dark Data

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Volunteer Work

Member of Conference Organizing Committees

Technical Program Chair | 2026

ACM Creativity and Cognition (C&C), UK

Paper Chair | 2025

ACM Creativity and Cognition (C&C), UK

Head Steering Committee | 2024 -

Hybrid Human-AI Conference (HHAI'24)

Technical Program Chair | 2023

Hybrid Human-AI Conference (HHAI'23), Germany

Student Research Competition Jury | 2022

ACM CHI Conference on Human Factors in Computing Systems (CHI 2022), USA

Summerschool Creatathon | 2021, 2022

A creative hackathon for 35 students in HCI, AI, Art and Design, with a final public exhibit at an art gallery in Paris, France

Social Event Chair | 2021

ACM UIST 2021, ACM Symposium on User Interface Software and Technology

Member of Conference Program Committees

ACM NordiCHI | 2026

ACM CHI | 2024

ACM Creativity and Cognition (C&C) | 2022, 2024

ICCC | 2022

ACM DIS | 2021

ACM Graphics Interface (GI) | 2020

Member of Local Committees

Co-Lead of GT 'Human-centered AI' | 2025 -

CNRS GDR IHM

Member of Scientific Commission (SC) | 2023 -

Inria Saclay

Co-organizer "Scientific mediation for Art, Science and Society" | 2021- 2022

Invited Talks/Dissemination

Creating a Foundation for Hybrid Human-AI Interaction Research (Chair)

The Netherlands | Ongoing 2025 -

Les Echos Newspaper (Interview)

Online | 09.04.2024

Topic: 'IA : calculer plus, mais consommer moins'

CLAIRE event All-questions-Asked (Panelist)

Online | 06.03.2024

Topic: Women in AI

Human in the Loop applied Machine Learning conference (Keynote)

University of Luxembourg, LUX | 2023

Topic: Human-AI collaboration: Shifting the focus to interaction

Inria Press (Interview)

Online | 09.05.2023

Topic: 'Curbing the Carbon Footprint of Machine Learning

ROS AI Integration Working Group (Talk)

Online, Koch, J./ Mackay W.E. | 2023

Topic: Interacting with Intelligent Systems

Collège de France workshop (Talk)

Collège de France , France | 2022

Topic: Human-AI collaboration to explore abstract ideas and concepts

MIT HCI Seminar (Talk)

Massachusetts Institute of Technology, USA | 2020

Topic: Designing Collaborative Systems for Inspiration

Review Experience

Special Recognitions for Outstanding Reviews

at ACM CHI '17, CHI'19, CHI'21, CHI'23, CHI'25
at ACM UIST '26

Journals

ACM TOCHI | 2020 - 2025

ACM HCIJ | 2021 - 2023

ACM IJHCS | 2019, 2026

IEEE Computer | 2016

Conferences

ACM SIGGRAPH | 2026

ACM Conference on Human Factors in Computing Systems (CHI) | 2016 - 2026

ACM Symposium on User Interface Software and Technology (UIST) | 2020 - 2026

ACM SIGCHI Conference on Creativity and Cognition (C&C) | 2017- 2026

ACM SIGCHI Conference on Designing Interactive Systems (DIS) | 2017, 2020, 2024, 2026

ACM/IEEE International Conference on Human-Robot Interaction (HRI) | 2020

ACM Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI) | 2020

ACM International Joint Conference on Pervasive and Ubiquitous Computing | 2016

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European Conference on Information Systems
(ECIS) | 2019, 2023

International Conference on Human-Computer
Interaction (INTERACT) | 2017

Grants

Agence Nationale de la Recherche (ANR) | 2024

Academic Experiences

Permanent Researcher in HCI

Loki, Inria Lille, FR | 08/2024 - now

Permanent Researcher in HCI

Ex|situ, Inria Saclay, FR | 10/2021 - 08/2024

Post-Doc in Human-Computer Interaction

Ex|situ, Inria Université Paris-Saclay, FR | 7/2020 - 10/2021

Supervisor: Wendy Mackay

Topic: Human Centric Algebraic Machine Learning

Industry research: User Interface Research

Autodesk Research Toronto, CA | 1/2020 - 5/2020

Invited by: Justin Matejka

PhD in Human-Computer Interaction

User Interface Group, Aalto University, FI | 11/2015 - 11/2020

Supervisor: Antti Oulasvirta

Topic: Collaborative Systems for Inspiration

PhD internship: Human-Computer Interaction

Ex|situ, Inria Université Paris-Saclay, FR | 10/2018-1/2019

Invited by: Wendy Mackay

M.Sc. Business Information Systems

Technical University Darmstadt, DE | 10/2011- 10/2014

Business Major: Marketing & HR Management

IT Major: Human-Computer Interaction

Study Abroad - Human Computer Interaction

Royal Institute of Technology, SE | 2013-2014

Major: Human Computer Interaction

B.Sc. Business Information Systems

University Magdeburg, DE | 10/2007 -10/2011

Business focus: Business, Finance and Law

IT focus: Data Mining & Decision Support Systems Final

Study Abroad - Business Administration

Fairleigh Dickinson University Vancouver, CA | 2010

Theses

PhD thesis in HCI (Dissertation Award - top 10%)

Aalto University, FI | 2020

Title: "Collaborative Systems for Design Inspiration"

Master thesis in HCI

Royal Institute of Technology, SE | 2014

Title: "Bio-Data Logging in Stress Treatment"

Master thesis Computer Science

Technical University Darmstadt, DE | 2013

Title: "Information and network benefits of social media platforms"

Bachelor thesis

University Magdeburg, DE | 2011

Title: "The Impact of Outlier Detection Methods on the Quality of Data Mining Models"

Work Experience

Risk Analyst

iZettle AB Stockholm, SE | 10/2014 - 10/2015

Analyzing behavior patterns of merchants based on credit card transactions and background analysis, ensure legal compliance and handling financial liability requests

Research Assistant

Biosync Technology AB, Mobile Life VINN Excellence Centre Stockholm, SE | 2014

Defining value propositions for a start up, research project for using bio-data in stress therapy: conducted design process to developing a prototype/mockup of a stress management system

Content Manager and Technical Administrator

Department of Civil and Company Law at TU Darmstadt, DE | 2012-2013

Managing and creating web content, member of IT-committee for standardizing IT-infrastructure among the faculties of the TU-Darmstadt

Data Mining Analyst

b.telligent Consultancy GmbH Munich, DE | 2011

6-month internship, Bachelors thesis on Outlier Detection, Organized in-house Data Mining trainings