

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 ideas and 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 4, CSCW1, Article 45 (May 2020)

International Conference Papers

SemanticCollage: Enriching Digital Mood Board Design with Semantic Labels

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

May AI? Design Ideation with Cooperative Contextual Bandits

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

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) 2018

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)'18

Design implications for Designing with a Collaborative AI

Koch, J. | 2017
Position Paper, AAAI Spring Symposium on User Experience of Machine Learning, 2017

Computational Layout Perception using Gestalt Laws

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

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 2018

Workshops

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. | 2020

Accepted Workshop proposal, CHI'20

Contextual Bandits for Design:

A Human-Computer Collaboration Approach

Koch, J. | 2018

Workshop paper, CHI'18

Tools for Inspiration Seeking: Raising Open Questions

Koch, J./ Lucero, A. | 2018

Workshop paper, DIS'18

Learning Layout Design: Challenges and opportunities

Koch, J./ Weir, D./Oulasvirta, A. | 2016

Workshop paper, CHI'16

Theses

PhD Thesis (Accepted for public defense)

Aalto University, FI | 2020

Title: "Collaborative Systems for Design Inspiration"

Final degree project (Grade: 1.0)

Royal Institute of Technology, SE | 2014

Title: "Bio-Data Logging in Stress Treatment"

Master thesis (Grade: 1.0)

Technical University Darmstadt, DE | 2013

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

Bachelor thesis (Grade: 1.3)

University Magdeburg, DE | 2011

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

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Grants

HPY.N TUTKIMUSSÄÄTIÖ | 2017

Personal research funding of 3000€ for research on Adaptive design systems

Scholarship ELEC Department | 2017

Full doctoral scholarship

ACM WomENCourage Scholarship | 2017

Celebration of Women in Computing (ACM-W)

Academic Experiences

PhD student in Human-Computer Interaction

User Interface Group, Aalto University, FI | 2015 - now
Supervisor: Antti Oulasvirta

Research Topic: Collaborative Systems for Inspiration

Industry Research: User Interface Research

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

Invited by: Justin Matejka

PhD internship: Human-Computer Interaction

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

Invited by: Wendy Mackay

M.Sc. Business Information Systems

Technical University Darmstadt, DE | 2011-2014

Business Major: Marketing & HR Management

IT Majors: Human-Computer Interaction

Final Grade: 1.27 (with honors)

Study Abroad - Human Computer Interaction

Royal Institute of Technology, SE | 2013-2014

Major: Human Computer Interaction

Average Grade: 1

B.Sc. Business Information Systems

University Magdeburg, DE | 2007-2011

Business focus: Business, Finance and Law

IT focus: Data Mining & Decision Support Systems

Final Grade: 1.6

Study Abroad - Business Administration

Fairleigh Dickinson University Vancouver, CA | 2010

Average Grade: A

German grading system: 1-excellent ... 4-sufficient

Invited Talks/ Exhibition

Art & AI Exhibition | 2019 - 2020

Helsinki Design Meetup | 2018

Topic: How to design for AI

IxDA Helsinki | 2017

Topic: Rethinking Interaction

Review Experience

2 Exceptional Reviewer distinctions at
ACM CHI '17, CHI'19

Journals

IJHCS | 2019

IEEE Computer | 2016

Conferences

ACM Conference on Human Factors in
Computing Systems (CHI) | 2016 - 2020

ACM Graphics Interface (GI) | 2020 (AC)

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

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

ACM Symposium on User Interface Software and
Technology Adjunct Proceedings (UIST) | 2020

ACM International Joint Conference on
Pervasive and Ubiquitous Computing | 2016

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

ACM SIGCHI Conference on Creativity and
Cognition (C&C) | 2017, 2019

European Conference on Information Systems
(ECIS) | 2019

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

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Teaching Experience

Computational Design (TA)

Aalto University, FI | 2016 - 2019

Lectures on 'Modern user interface design methods' and 'Human-AI Cooperation' -- part of Computation User Interface Design Course

User Research (TA)

Aalto University, FI | 2016 - 2019

Lectures on 'Large scale text analysis' (NLP) and 'Information visualization'

Advising Experience

Master Thesis | 2016, 2019

Bachelor Thesis | 2016

Research Projects as academic advisor | 2017-20

Volunteer Work

XRDS Digital Content Editor | 2017 - 2019

Workshop Chair at SIDeR '18 | 2018

Session Chair at SIDeR '18 | 2018

ACM CHI Student Volunteer | 2018

SIGCHI Student Volunteer | 2017

Work Experience

Risk Analyst

iZettle AB Stockholm, SE | 2014 - 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