

# 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

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### **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  
Annual ACM Symposium on User Interface Software and Technology Adjunct Proceedings (UIST) 2018

### **Contextual Bandits for Design:**

#### **A Human-Computer Collaboration Approach**

Koch, Janin | 2018  
Workshop paper, CHI'18

### **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

### **Group Cognition and Collaborative AI**

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

### **Tools for Inspiration Seeking:**

#### **Raising Open Questions**

Koch, J./ Lucero, A. | 2018  
Workshop paper, DIS'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

## Theses

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### **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"

## Education

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### **PhD student in Human-Computer Interaction**

User Interface Group, Aalto University, FI | 2015 - now  
Supervisor: Antti Oulasvirta  
Research Topic: Collaborative AI for Inspiration

### **PhD internship: Human-Computer Interaction**

Ex|situ, Inria Université Paris-Saclay, FR | 10/2018-01/2019  
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**

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## Teaching Experience

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### 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'

## Review Experience

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

### Conferences

ACM Conference on Human Factors in Computing Systems (CHI) | 2016 - 2019

ACM International Joint Conference on Pervasive and Ubiquitous Computing | 2016

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

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

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

European Conference on Information Systems (ECIS) | 2019

### Journals

IJHCS | 2019

IEEE Computer | 2016

## Grants

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**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)

## Work Experience

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### Risk Analyst (Finance)

iZettle AB Stockholm, SE | 2014 - 2015

Pattern analysis for preventing money laundering and financial fraud, Customer risk analysis

### Research Assistant

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

### Content Manager and Technical Administrator

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

### Data Mining Analyst

b.telligent Consultancy GmbH Munich, DE | 2011

## Invited Talks/ Exhibition

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**Art & AI Exhibition** | 2019 - 2020

**Helsinki Design Meetup** | 2018

Topic: How to design for AI

**IxDA Helsinki** | 2017

Topic: Rethinking Interaction

## Volunteer Work

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**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

## Advising Experience

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**Master Thesis** | 2016, 2019

**Bachelor Thesis** | 2016

**Research Projects as academic advisor** | 2017-19