

MAX PASCHER

HUMAN-ROBOT INTERACTION RESEARCHER



HI! I'M MAX - A HRI RESEARCHER AND ELECTRICAL ENGINEER FOCUSING ON INTERACTION DESIGNS FOR SEAMLESS HUMAN-ROBOT COLLABORATION

My research interests range from developing effective interaction designs for semi-autonomous (assistive) robots - frequently focusing on the needs of people with disabilities - to developing HRI research-support tools like VR/MR testbed environments. Most recently, I have been part of research groups working on the BMBF-funded MobILe and DoF-Adaptiv research projects.

I represented our research during numerous international conferences and am confident in giving engaging public talks to scientific and student audiences. Within the HRI community, I worked as a student volunteer and supported CHI PLAY '23 as web chair. Additionally, I coordinated the social media appearance for the German HCI community for CHI '23.

Thanks to my industry experience as an electrical engineer and programmer, I can troubleshoot robot/add-on problems and sort out issues with the respective coding. Yes, I can also fix the office printer.

In my free time, you find me either hiking up a mountain or underwater while scuba diving. As a professional dive instructor, I am heavily involved in teaching sustainable watersport practices and promoting shark - and general marine - conservation.

REFERENCES

| Prof. Dr. Jens Gerken

TU Dortmund University, Germany
Head of Research Unit
jens.gerken@tu-dortmund.de

| Prof. Dr. Stefan Schneegaß

University Duisburg-Essen, Germany
Ph.D Supervisor
stefan.schneegass@uni-due.de

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CONTACT

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QUALIFICATIONS & EXPERTISE

| Languages

German - native

English - C2

Spanish - A1

| Professional

Server Administration

ROS, C/C++, obj-C, Java, PHP,

Python

App Development Android/iOS

MATLAB, Simulink

SPSS, R

| Personal

Coastal Boat Licence

SSI AOW Scuba Instructor

EDUCATION

10 / 2018 – Ongoing

Ph.D student Human-Robot-Interaction

University of Duisburg-Essen
Germany

Developing of novel interaction designs and intervention strategies for the seamless collaboration with semi-autonomous assistive robots

09 / 2013 – 08 / 2015

MSc Distributed Information Systems

Westphalian University of Applied
Sciences | Germany

Grade: 1.1 with Distinction

Conception and prototypical realization of a software architecture for a distributed system for recording, processing and analysis of energy consumption data

09 / 2008 – 08 / 2011

BSc Information Technology

University of Applied Sciences
Gelsenkirchen | Germany

Grade: 2.2

Process optimization of a changing system for coffee roasting plants under a continuous analysis of the weighing process

WORK EXPERIENCE

09 / 2023 – Ongoing

Research Assistant

Technical University Dortmund | Germany

Working in a BMBF funded research project (DoF-Adaptiv) in the field of Human-Computer Interaction and Inclusive Human-Robot Interaction

MAX PASCHER

10 / 2017 – 08 / 2023

Research Assistant

Westphalian University of Applied Sciences | Germany
Working in two BMBF funded research projects (MobilLe and DoF-Adaptiv) in the field of Human-Computer Interaction and Human-Robot Interaction

02 / 2015 – 10 / 2017

Research Assistant

Westphalian University of Applied Sciences | Germany
Working in a BMBF-funded research project (ZELIA) and conducting several projects in the scope of Mobile and Ubiquitous Computing

02 / 2011 – 02 / 2016

Development Engineer

PROBAT-Werke, Gimborn Maschinenfabrik GmbH | Germany
PLC programmer and engineer for industrial coffee roasting machines. Application programmer for production data and exchange with resource planning software

08 / 2005 – 06 / 2008

Fast-trek Apprentice Electronics Technician

Siemens Home and Office Communication Devices GmbH & Co. KG | Germany
Fundamentals of electrical engineering and precision mechanics, circuit board design and construction, programming of microcontrollers and programmable logic controllers, prototype construction

VOLUNTEERING

03 / 2009 – Ongoing

International Rescue Expert

Bundesanstalt Technisches Hilfswerk, SEEBA | Germany
Rescue expert and SAR commander for the German Emergency Quick Response Unit for World-wide Disasters (SEEBA)

03 / 2003 – Ongoing

Rescue Expert

Bundesanstalt Technisches Hilfswerk, Bocholt/Borken | Germany
Several roles within the Quick Response Unit of the THW, including youth group leader, infrastructure & rescue expert and general group leader

MAX PASCHER

SCIENTIFIC SERVICES

Proceedings Chair

MuC 2024

Web Chair

CHI PLAY 2023

Student Volunteer

MUM 2017 | MuC 2022 | CHI 2023 | MobileHCI 2023

PROGRAMM COMMITTEE

ACM International Conference on Human Factors in Computing Systems
(LBW-Track) | 2023 | 24

ACM International Conference on Tangible, Embedded and Embodied
Interaction (WiP Track) | 2023

EXTERNAL REVIEW

ACM International Conference on Human Factors in Computing Systems
CHI 2018 | 19 | 20 | 21 | 22 | 23 | 24

IFIP TC.13 International Conference on Human-Computer Interaction
INTERACT 2019 | 21

ACM User Interface Software and Technology Symposium
UIST 2022

Nordic Conference on Human-Computer Interaction
NordiCHI 2022

ACM / IEEE Conference on Human-Robot Interaction
HRI 2023 | 24

Mensch und Computer (ACM In-Cooperation)
MuC 2019 | 20 | 21 | 22 | 23

ACM International Conference on Tangible, Embedded and Embodied Interaction
TEI 2023

SELECTED PUBLICATIONS

PACM-HCI (EICS) 2024

Paper Author: AdaptiX – A Transitional XR Framework for Development and Evaluation of Shared Control Applications in Assistive Robotics

RO-MAN 2023

Paper Author: In Time and Space: Towards Usable Adaptive Control for Assistive Robotic Arms

CHI 2023

Paper Author: How to communicate Robot Motion Intent:
A Scoping Review

CHI 2023

LBW Paper Author: HaptiX: Vibrotactile Haptic Feedback for Communication of 3D Directional Cues

HRI 2023

VAM-Workshop Author: PhysicalTwin: Mixed Reality Interaction Environment for AI-supported Assistive Robots

HRI 2023

VAT-Workshop Co-Author: Understanding Shared Control for Assistive Robotic Arms

AVI 2022

Poster Author: Adaptive DoF: Concepts to Visualize AI-generated Movements in Human-Robot Collaboration

INTERACT 2021

Paper Author: Recommendations for the Development of a Robotic Drinking and Eating Aid - An Ethnographic Study

INTERACT 2019

Demo-Author: SwipeBuddy: A Teleoperated Tablet and eBook-Reader Holder for a Hands-Free Interaction

CHI 2019

Paper Co-Author: Around the (Virtual) World: Infinite Walking in Virtual Reality Using Electrical Muscle Stimulation

HRI 2018

VAM-Workshop Co-Author: Opportunities and Challenges in Mixed-Reality for an Inclusive Human-Robot Collaboration Environment

MAX PASCHER

STUDENT ADVISING

Supervisor for Master Thesis at University of Duisburg-Essen

Effects of Different Visual Directional Cues of an Assistive Robotic Arm on Safety
and User Acceptance

Supervisor for Bachelor Theses at University of Duisburg-Essen

Qualitative Comparison of Assistive Input Devices for Controlling a Robotic Arm
in Everyday Life

Exploring Interaction and Intervention Communication Language for Assistive
Robots in Domestic Environments

Supervisor for Master Theses at Westphalian University of Applied Sciences

Motion Intent of AI-Supported Assistive Robots: Exploring Interaction and
Visualization Concepts in a VR Simulation Study

Communication and Mapping of Directions in 3D Space utilizing Vibrotactile
Feedback

Supervisor for Bachelor Theses at Westphalian University of Applied Sciences

Communication of a Robot's Intention to Move through Implicit Hints in
Augmented Reality

Conception, Design, and Evaluation of 2D Directional Cues for the
Communication of Robot Movement Intentions

Development and Evaluation of Discrete and Continuous
Input Control for AI-supported Assistive Robotic Arms

Exploring Natural Language Interaction with a Multi-Robot System in a Virtual
Reality Simulation

PATENT

Inventor of: System and Method for Providing an Object-related Haptic Effect
German Patent and Trade Mark Office (DPMA)
Reference number: 102022122173 (Forthcoming)