



HRI Research Aalborg University

Matthias Rehm
Coordinator HRI-Lab



AALBORG UNIVERSITY
DENMARK

Strategic Research Initiative 2019-2021

- ▶ Consolidate and strengthen research on Human Robot Interaction across departments
- ▶ Including establishment of physical research lab
- ▶ Some numbers:
 - 14 Faculty members from 7 different research groups
 - 12 PhD students
 - Experience with 20+ EU-projects, from Cost actions over research projects to networks
 - Experience with 20+ national projects including Innovation Fund projects



Vision: From reactive to proactive robots

Trust



Shared Control



Production

Health





HRI-lab competencies

DESIGN

Co-creation

Participatory design

Maker movement

AI

Social signal processing

Intent recognition

Deep learning

CONTROL

Communication

Modeling dynamic systems

Sensor fusion and estimation

INTERACTION

Human robot trust

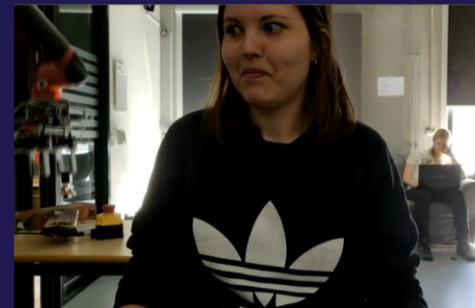
Beyond one-to-one interaction

Long term interaction



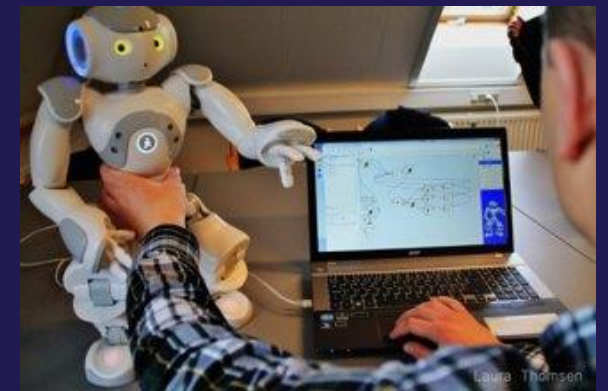
Example: Human Robot Trust Research

- ▶ Reliable trust measurement across contexts based on observable behavior; challenges include:
 - Mapping of trust to observable behavior
- ▶ Adaptive behavior in robots to maximize trust in the human user; challenges include:
 - Long term interaction (taking the dynamic nature of trust into account)
 - Knowledge about relation between robot characteristics and feeling of trust (e.g. design, movement, interaction behavior, etc.)
- ▶ Trust beyond dyadic interactions: challenges include:
 - different participation roles, different trust levels



Our interests in the upcoming calls

- ▶ We bring together competencies from different disciplines and can thus adapt our contribution to consortium needs
- ▶ We are mainly interested in "human factors"
 - Social signals processing, learning, intention recognition
 - Modeling, experimental studies, field studies
 - One-to-many/many-to-one HRI



Thank you

If you want to know more, visit us at

<https://hri.tech.aau.dk>

The screenshot shows the website for Human Robot Interaction at Aalborg University. At the top, the Aalborg University logo and name are displayed, followed by the text "HUMAN ROBOT INTERACTION". Below this is a dark navigation bar with links for "PUBLICATIONS", "RESEARCH", "PEOPLE", "COLLABORATION", "EVENTS", and "CONTACT". The main heading is "HUMAN ROBOT INTERACTION - HRI". A central text block describes the project as a strategic initiative of the Technical Faculty of IT and Design, involving various departments. To the right of this text is a vertical menu with links for "PUBLICATIONS", "RESEARCH", "PEOPLE", "COLLABORATION", "EVENTS", and "CONTACT". Below the text and menu is a grid of six tiles, each with an image and a title: "RESEARCH" (with a photo of people working), "PUBLICATIONS" (with logos for CHI 2018 and ROBOTICA), "PEOPLE" (with a photo of a robot), "COLLABORATION" (with a world map), "EVENTS" (with a photo of a large gathering), and "CONTACT" (with a photo of acoustic foam).



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