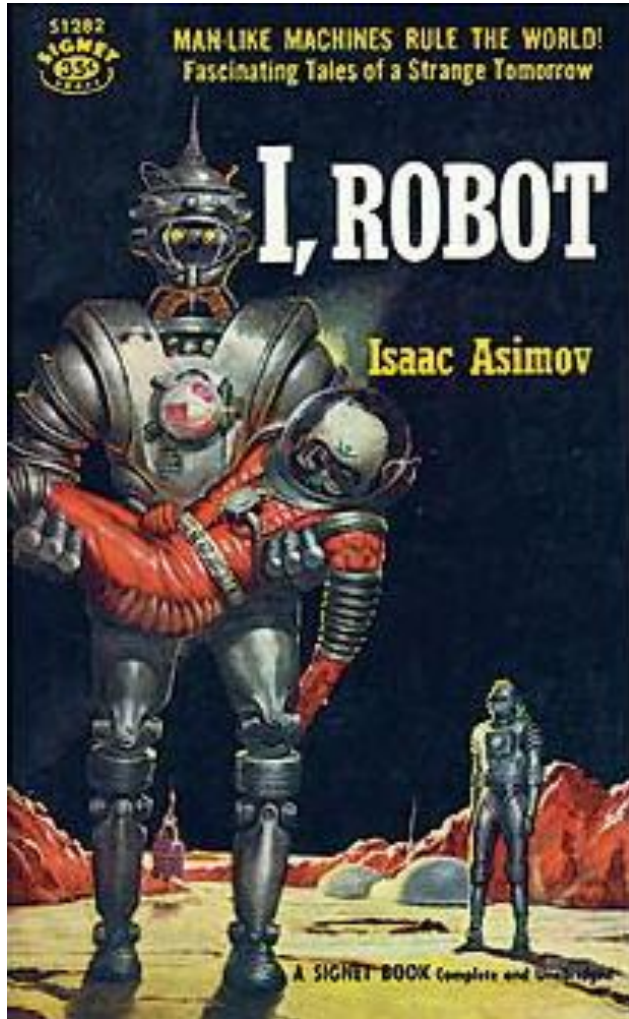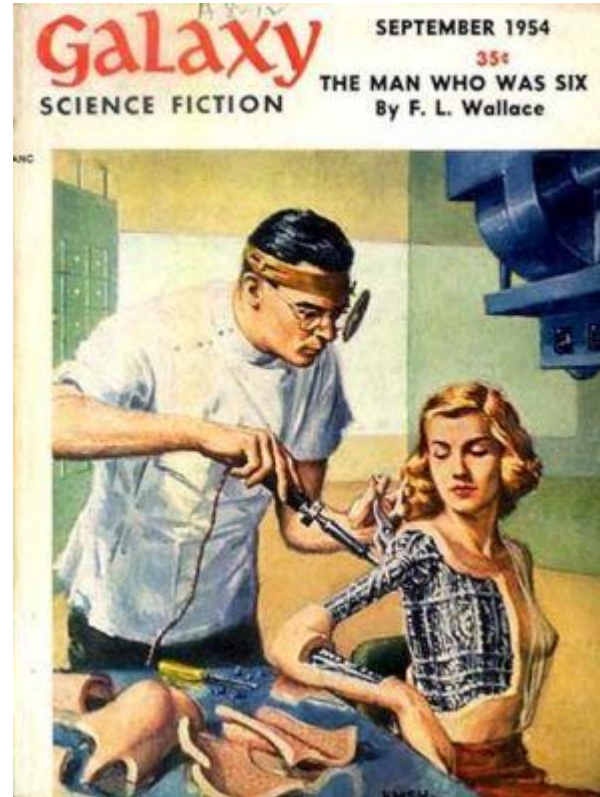University of St.Gallen

TechX | Lab HSG

How Machines Can Fool Us:
From Machine Deception to Sex-Robots

Prof. Dr. Christian Hildebrand
Professor of Marketing Analytics
TechX Lab HSG

"From insight to impact"

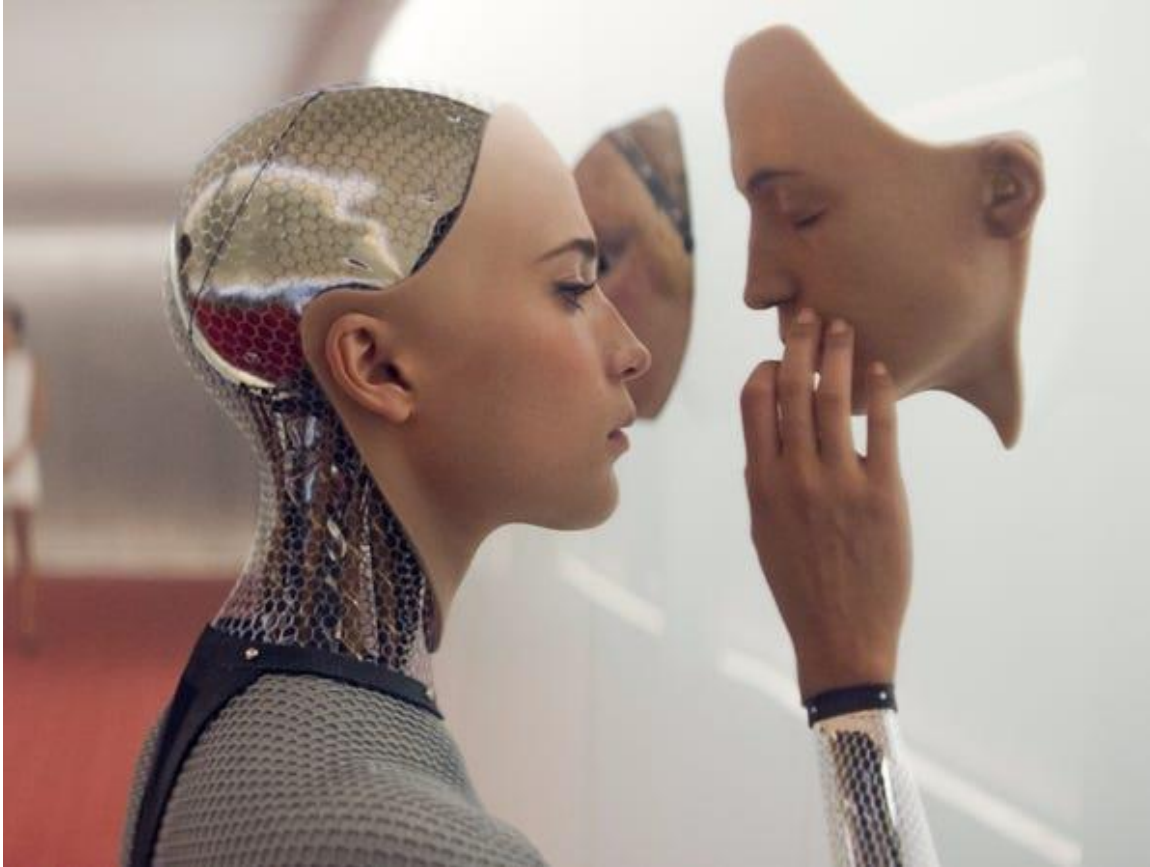# Creating Human-Like Robots as a Deep, Human Desire

Asimov 1950

Galaxy 1954

Robot George 1930

Not Science Fiction Anymore – Popular Culture Reflects Actual Culture

"Ex Machina" (Movie 2014)

"Real Humans" (Series 2012-2014)

The Status-Quo – When Utopia Becomes Reality

Now You: Select which of the two robots you like more!
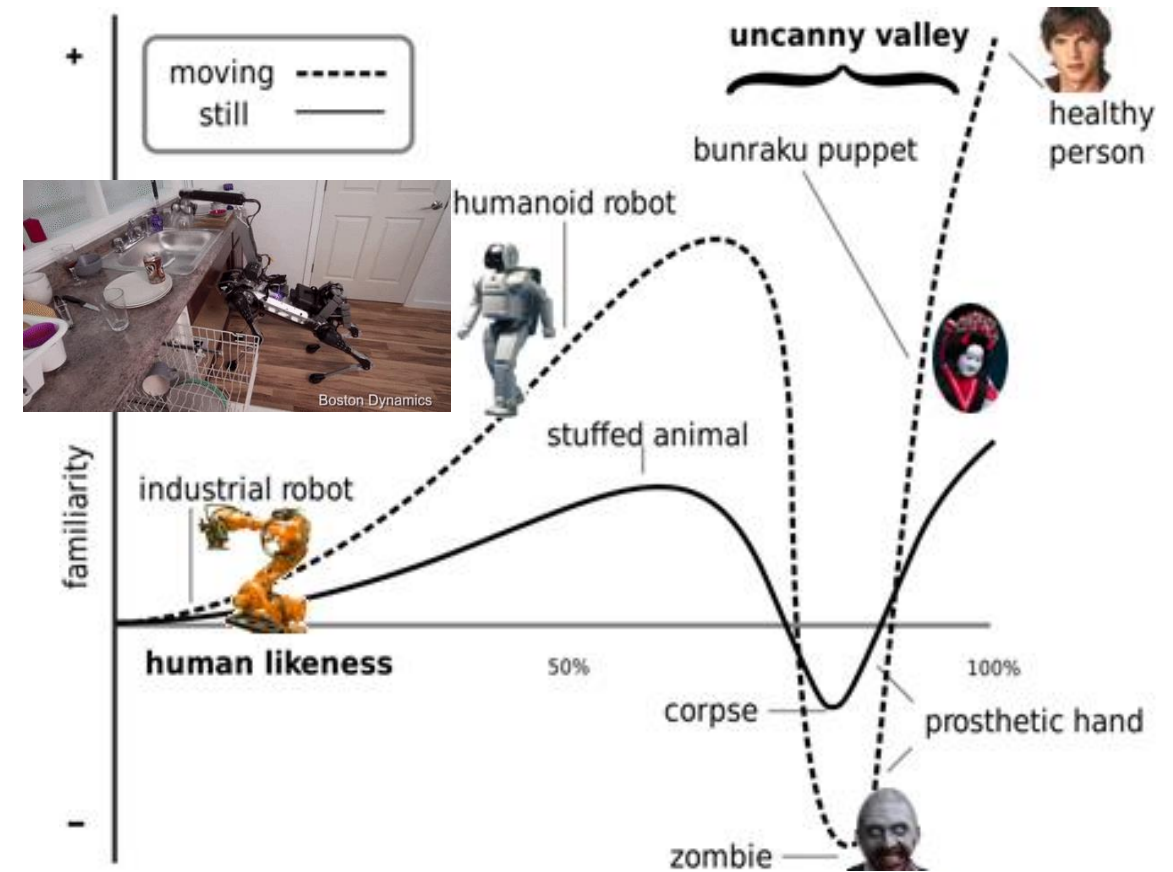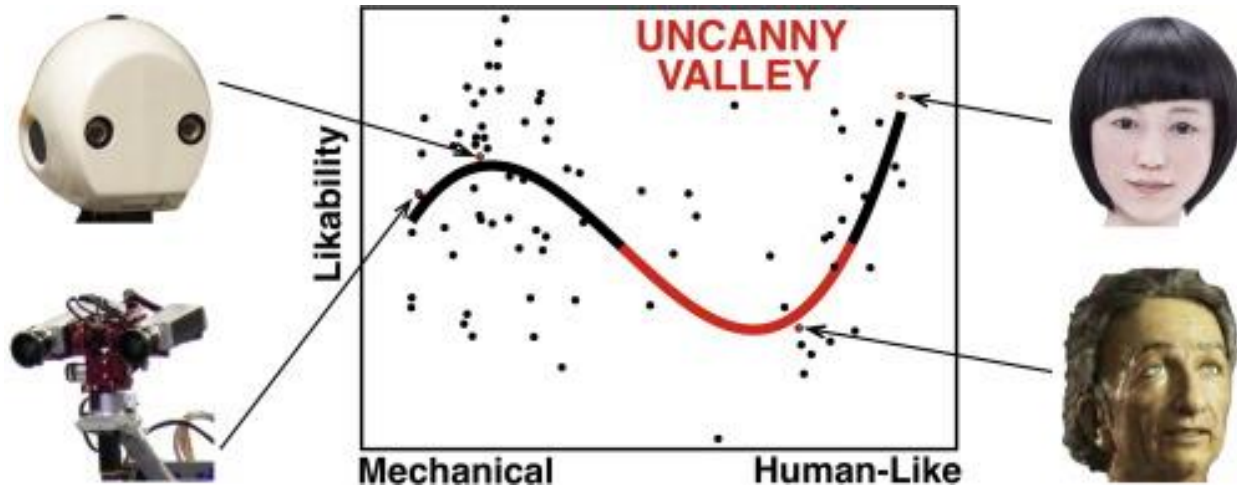

Humanoid Robot Sophia

Humanoid Robot Kodomoroid
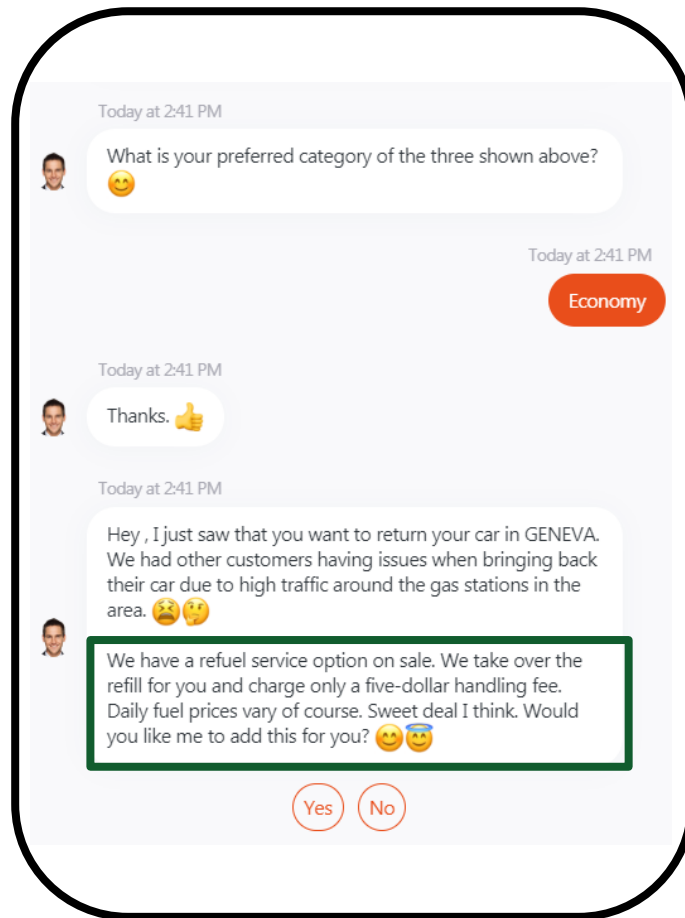
A Fine Line: Navigating the Uncanny Valley Effect

TechX | Lab HSG

"She enhances our sexual life, myself and my wife, more than a sexual toy would."

Switching Gears: Can Human-Like Bots Sell?

Rental Car Setting
Refill Choice
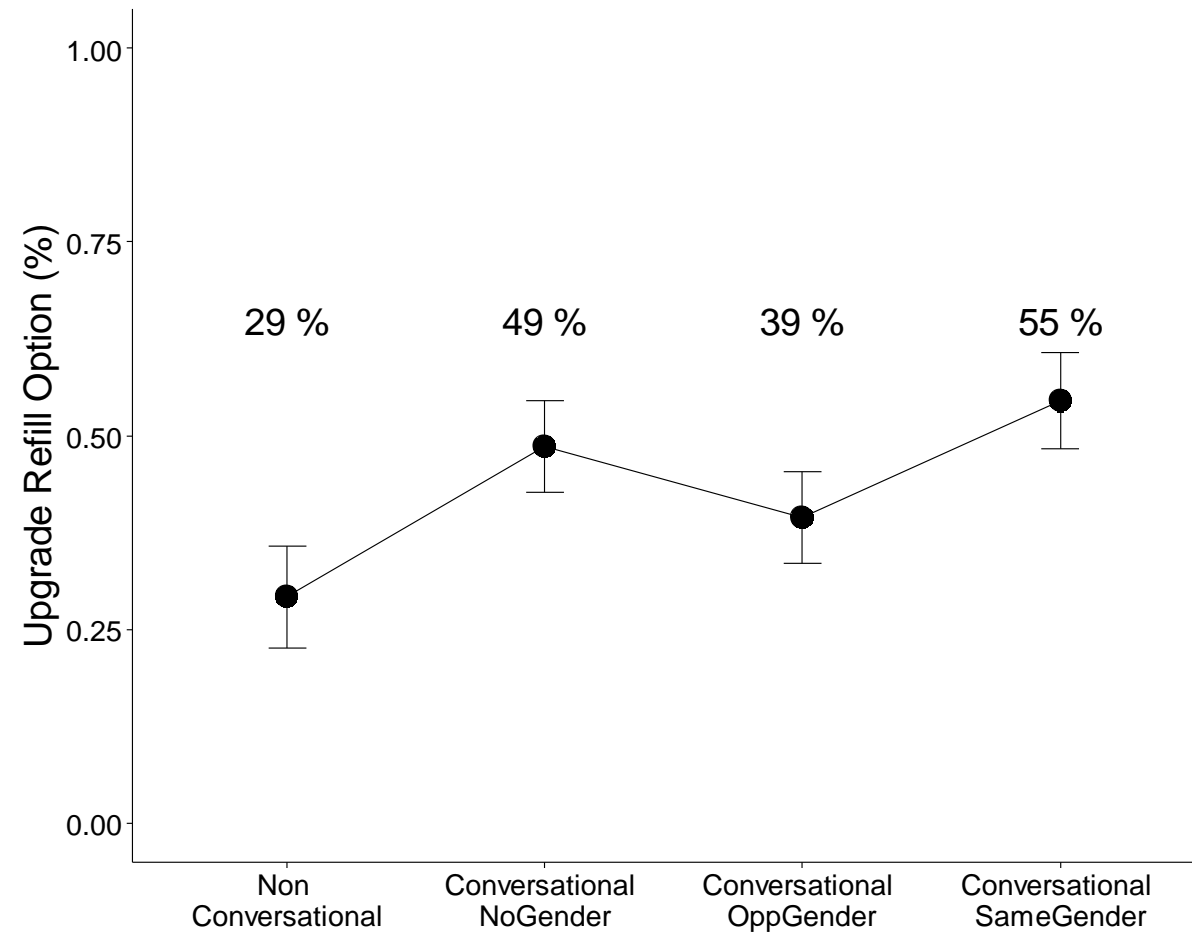
Neutral bot   Female bot   Male bot

- **Traditional** booking interface
- **Conversational** interface **no** gender
- **Conversational** interface **opposite** gender
- **Conversational** interface **same** gender

Bots as Digital Sales Machines

Machine Deception in Financial Advisory

Non-Conversational Robo Interface

Conversational Robo Interface

Step 1:

$$RPI_i = \frac{\sum_{k=8}^{10} Q_k - \sum_{k=8}^{10} \min(Q_k)}{\sum_{k=8}^{10} \max(Q_k)} \times 100$$

Step 2:

$$P_i = \begin{cases} Conservative \leftarrow RPI_i \in Tertile3(RPI) \\ Aggresive \leftarrow RPI_i \in Tertile1|2(RPI) \end{cases}$$

The Next Frontier: From Co-Bots to Sex-Bots
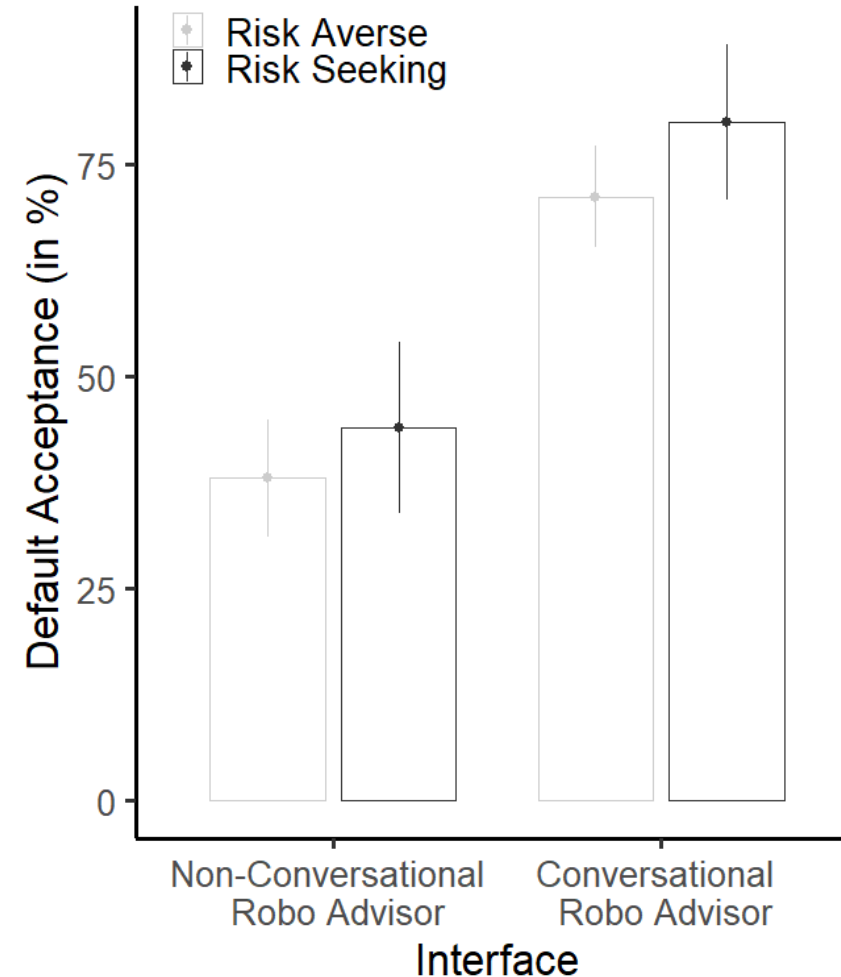
Sex robot damaged after being 'molested at electronics fair'

The doll reacts to the touch and voice of users

"When we got her back, it was clear she had been roughly treated … **she should be treated with respect**.

This is not how she should be treated, she has sensors all over her body and **needs a gentle touch**."

Only a "Man's Thing"? Think Again!
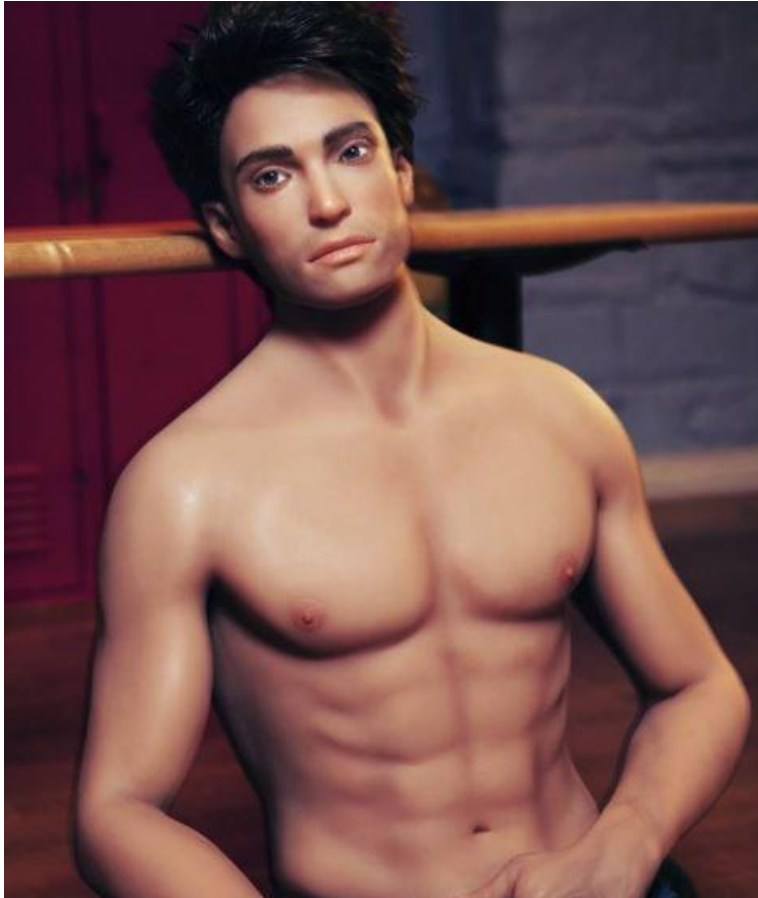
HUMPIN' HENRY World's first sex robot for women launched complete with customisable penis, fake stubble and Brad Pitt's chiselled torso

Henry is the world's first sex robot for women and he can recite your favourite poem or song lyric

Jon Rogers
4 Dec 2018, 18:21 | Updated: 5 Dec 2018, 1:14

So What?

- Bottom Line: We become **more and more comfortable** to integrate robots into our daily lives – from chatbots to voice assistants, to humanoid service robots. **Human-likeness is key**.

- Strong cultural differences:
  - "*Japanese people are not afraid of robots but consider them as partners*" (Hiroshi Fujiwara, JRA)
  - „**Animus**" belief in Japan (spirit can reside in any object, also robots)

- What **scares** people:
  - Not the fact that machines are machines!
  - It's the inability to tell what's a human and what's a machine (Google Duplex)

- Problems:
  - **Transparency**! Why this recommendation? Why this design (matching my voice / gender / style)?
  - Engineering „**Gendered Machines**" can magnify cultural biases. Why are all major voice assistants female?
  - **Childlike sex robots** are robots, not humans – but: small step to produce "childlike" robots for pedophiles.

Open-Access Articles
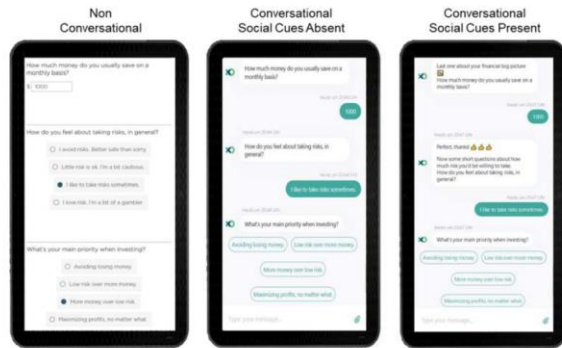
Hildebrand, C., & Bergner, A. (2020). Conversational robo advisors as surrogates of trust: Onboarding experience, firm perception, and consumer financial decision making. *Journal of the Academy of Marketing Science*, 1-18.

https://bit.ly/3e8FqLz
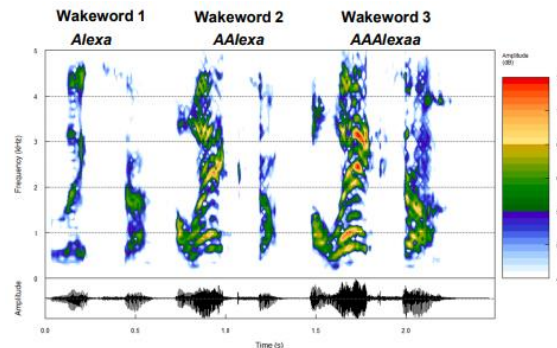
Hildebrand, C. et al. (2020). Voice analytics in business research: Conceptual foundations, acoustic feature extraction, and applications. *Journal of Business Research*, *121*, 364-374.

https://bit.ly/3bYR0X3

Hildebrand, C. (2019). The Machine Age of Marketing: How Artificial Intelligence Changes the Way People Think, Act, and Decide. *NIM Marketing Intelligence Review*, *11*(2), 10-17.

https://bit.ly/3bdWRs7

Contact

Christian Hildebrand
Professor of Marketing Analytics
Director TechX Lab HSG

University of St.Gallen (HSG)
Dufourstrasse 40a
9000 St.Gallen

Phone: +41 71 224 2850
Email: christian.hildebrand@unisg.ch
Web: www.techx-lab.org
LinkedIn: www.linkedin.com/in/christian-hildebrand