



University of
Zurich^{UZH}

Digital Society Initiative

RUHR
UNIVERSITÄT
BOCHUM

RUB



Ethics of Emotion Computing

Interdisciplinary Workshop

Mon 18 &
Tue 19
September
2023

Digital Library
Space, Rämistr. 69,
8001 Zürich

Main Organizers

Prof. Dr. Eva-Weber Guskar (Ruhr-University of Bochum & DSI- Ethics Community)
Prof. Dr. Anna Tuschling (Ruhr-University of Bochum)

DSI
COMMUNITY
ETHICS

Program

Day 1 - Monday, September 18

- 3 pm Welcome
- 3:15 – 4:15 **Rafael Calvo** (via Zoom): Affective computing: Value tensions in design engineering
- 4:15 – 4:30 *Short Break*
- 4:30 – 5:30 **Gabriele Gramelsberger**: Affective Infrastructure. Towards the Naturalisation of the Digital
- 5:30 – 6:00 *Coffee Break*
- 6:00 – 7:15 **Ana Paiva, Keynote**:
Feelings can't be ignored: the role of emotions in the communication between humans and AI
- 7:30 *Apéro riche*

Day 2 - Tuesday, September 19

- 9:00 – 10:00 **Eva Weber-Guskar**: Can You Feel the Difference? Emotion Detection Systems and Emotional Granularity
- 10:00– 10:15 *Short Break*
- 10:15 – 11:15 **Alexander Campolo**: Affect as paradigm: The structure of machine learning problems
- 11:15 – 11:30 *Short Break*
- 11:30 – 12:30 **Anna Tuschling**: Emotional and Affective States as Quasi-Semantics in the history of interactive Computing
- 12:30 – 2:00 *Lunch*
- 2:00 – 3:00 **Luke Stark**: Reordering Emotion: Scenes from the History of Affective Computing and Emotion AI
- 3:00 – 3:30 *Coffee Break*
- 3:30 – 5:00 **General discussion** with short inputs by Jonas Blatter (philosophy, Bochum), Daniela Wentz (media science, Bochum) and Piera Filippi (philosophy, Zurich)
- Optional: Joint walk to the Zurich lake*
- 7:00 *Conference dinner for speakers, Restaurant Chiffon, Hirschengraben 36, 8001 Zürich*

Abstracts

Rafael A. Calvo (computer science, London)

Affective computing: Value tensions in design engineering

As engineers who “make things”, we like to focus on the positive impact that our work has on the world, and we occasionally look at its unintended consequences. But what we rarely do is ask “what are the values by which we judge the systems we create?”. I discuss an “archaeology of AI” using Weizenbaum’s ELIZA chatbot, created in 1966 to reflect on different schools of psychology, philosophy and engineering that today shape the world, and how the inconclusive debates at the dawn of AI still rage through our work on Affective Computing. In this talk I will be reflecting on the ethical considerations that arise from our affective computing research and how I have personally attempted to address the corresponding tensions within my own work. This is not a lecture on ethics, but rather a personal, and therefore partial, description of the dilemmas faced when looking at the “big picture” impact of our engineering work.

Gabriele Gramelsberger (philosophy, Aachen)

Affective Infrastructure. Towards the Naturalisation of the Digital

Following Mark Weiser's vision from 1991 that the digital of the 21st century weaves itself "into the fabric of everyday life" until it is "indistinguishable from it," we are today facing an evolution of the digital toward its naturalization. In this context, the miniaturization of technology plays an important role, but even more so the increasingly natural access to the digital, which brings the digital closer to emotions, affects and intuitions. In English, the term naturalization ambiguously refers on the one hand to the digital as a technology that becomes (second) nature, and on the other hand to the naturalization (citizenship) of the digital into the human sphere. The digital as an increasingly affective infrastructure that enables a more natural (intuitive) access to the digital plays a crucial role in this evolutionary process. The paper analyzes from a philosophical perspective the emergence of the digital as an affective infrastructure as well as the phenomenological consequences of the naturalization of the digital in the human domain.

Ana Paiva (computer science, Lisbon/Harvard)

Feelings can't be ignored: the role of emotions in the communication between humans and AI

Social agents, chatbots, or social robots have the potential to revolutionize the way we interact with technology. As their affordability increases, they will play a greater role in our daily activities, performing various tasks and communicating with us naturally. Ultimately, as AI researchers, our goal is to create machines that can socially and collaboratively partner with humans. And, as we build these social systems to interact with people, emotions cannot be ignored. In recent years, researchers have been investigating the significance of emotions in human-machine communication. The aim is not only to find ways to adapt AI to human emotional responses, but also to react in a manner that promotes collaboration, leading to more engaging and trustworthy interactions. However, the ethical implications of constructing such artificial social systems need to be addressed. Should machines be designed to detect, adapt, and respond to human emotions? Should they attempt to mimic human emotional responses? In this talk, I will provide an overview of the numerous challenges we face as we strive to create increasingly social AI. I will also explore whether, when, and how emotions should come into play.

Eva Weber-Guskar (philosophy, Bochum)

Can You Feel the Difference? Emotion Detection Systems and Emotional Granularity

An important ethical criticism of the use of affective computing applications is that intensive and/or long-term use of emotion detection systems would lead to a loss of emotional granularity in users. In other words, it is suggested that our ability to recognize, and perhaps even experience, finely differentiated emotions would diminish. In this talk, I will address this criticism. First, I will elaborate on the concept of emotional granularity and its ethical implications. Then, I will consider three kinds of automated emotion detection and evaluate their shortcomings with respect to emotional granularity, namely systems based on visual signals and basic emotion theory, multimodal systems, and systems based on the appraisal approach to emotions. This leads me to speculate about what kind of system would not only not be harmful, but might even be helpful in maintaining and even deepening the capacity for emotional granularity.

Alexander Campolo (media science, Durham)

Affect as paradigm: The structure of machine learning problems

“...in short, even morality is just a sign language of the affects!”, Nietzsche

Rather than entering into contentious debates about the status of emotion science, this talk asks why affect and emotion recognition have emerged as a paradigmatic type of applied scientific problem for machine learning. Most obviously, basic emotion theory provides a small, discrete set of data labels that have some scientific rationale, permitting the creation of training datasets that can be used to infer statistical associations between facial images and labels, linked to interior emotional states. After working through a close analysis of one of these systems, I argue that the model of emotional expression as an external indication of some unobservable interior state resembles machine learning’s probabilistic conception of the world as an observable sample of some deeper underlying distribution or function. Curiously, the very unintelligibility of these causes appears to strengthen our belief in their truth. Machine learning systems are able to achieve “better than human performance” while emotional expressions resist our ability to modulate or dissimulate our inner selves. This sense of a form of truth that is characterized by its ability to transcend observation, intention, and intelligibility is shared as a paradigm by emotion science and machine learning. The latter is thus said to be able to use observable but unintelligible signals to identify interior states, dispositions and identities, from sexuality to political ideology.

Anna Tuschling (media science, Bochum)

Emotional and Affective States as Quasi-Semantics in the history of interactive Computing

This contribution is focusing on the functionality of applications provided by the field of affective computing in the recent history of interactive computing. The potential problems of computing that processes, simulates and influences emotions (Picard) have gained more and more attention in recent years. Less understood are the functions of affective computing in the history of computing and interface culture. To close this gap the contribution will make first suggestions with an emphasis on the concept of quasi-semantics. I will make four arguments to outline this:

1. All varieties of affective computing have to form emotional and affective states. In reference to the classical debate about digital states (Goodman et al.), I will describe what can be called emotional and affective states in this context.
2. The forming of emotional and affective states is twofold: It reduces the experiences of emotions to discrete entities and can therefore be evaluated as reductionist. It can also be described as the key to link individual experiences to sign systems and communication technologies – especially in digital environments, provided by modern, networked computers.
3. I will point out the importance of a mediahistorical perspective to fully understand the development and functionality of affective computing in this context and propose the concept of quasi-semantics.
4. At last, I will highlight the problematic forms of discourses in affective computing that conceal important gaps (see the idea of “body swaps” in Virtuality) in perspectives and perceptivity.

Luke Stark (media science, London, Ontario)

Reordering Emotion: Scenes from the History of Affective Computing and Emotion AI

In fields ranging from health and wellness and advertising and marketing to public safety and security, and political campaigning, data analytics tools united with techniques from the psychological and behavioral sciences are being deployed in real-world application defining, tracking, measuring, and modulating our moods, feelings, and physical affective responses. Scandals like the 2014 Facebook “emotional contagion” study and the “psychographic profiling” of Trump campaign contractor Cambridge Analytica have brought these technologies into public consciousness. Yet despite their increasing centrality to digitally-mediated life, the historical genealogy of these technologies, and the broader role of psychological models of emotion and personality in computing, remains largely unexplored in the history of computing. In this talk, I connect the historical treatment of human emotion by computer science to parallel wider debates within psychology, psychology, and cognitive science from late 1940s up to the present, examining how the genealogy of cybernetic technologies for emotion measurement and tracking shaped the slow growth of affective computing as an organized field in the 2000s and its speedy growth today. In doing so, I connect elite debates in the early days of computing around the best way to manage social disorder with today's reliance on digital technologies to manage and modulate individuals and populations using AI systems.