What should we do with Emotion AI? Towards an Agenda for the Next 30 Years

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ABSTRACT

What should we do with emotion AI? Should we regulate, ban, promote, or re-imagine it? Emotion AI, a class of affective computing technologies used in personal and social computing, comprises emergent and controversial techniques aiming to classify human emotion and other affective phenomena. Industry, policy, and scientific actors debate potential benefits and harms, arguing for polarized futures ranging from panoptic expansion to complete bans. Emotion AI is proposed, deployed, and sometimes withdrawn in collaborative contexts such as education, hiring, healthcare, and service work. Proponents expound these technologies' benefits for well-being and security, while critics decry privacy harms, civil liberties risks, bias, and shaky scientific foundations, and gaps between technologies' capabilities and how they are marketed and legitimized. This panel brings diverse disciplinary perspectives into discussion about the history of emotions—as an example of 'intimate' data—in computing, how emotion AI is legitimized, people's experiences with and perceptions of emotion AI in social and collaborative settings, emotion AI's development practices, and using design research to re-imagine emotion AI. These issues are relevant to the CSCW community in designing, evaluating, and regulating algorithmic sensing technologies including and beyond emotion-sensing.

CCS CONCEPTS

• **Human-centered computing** → **Human computer interaction (HCI)**.

KEYWORDS

Emotion recognition, Emotion Artificial Intelligence, Artificial Intelligence, Affective Computing

1 INTRODUCTION

Emotion AI is deployed in impactful social and collaborative contexts, such as workplaces, social media, education, and security [27]. For example, MeetingCoach uses emotion AI techniques to analyze sentiment in video calls aiming to encourage more inclusive, effective meetings [37]. Emotion AI is also used for monitoring call center workers [21, 33], evaluating job candidates [2, 4, 13, 20, 34], assessing workplace stress and productivity [3], and monitoring students in schools[26, 27]. Overall, Emotion AI is proposed for and deployed in a range of collaborative contexts underscoring its relevance to the CSCW community.

Broadly, "*emotion AI* is a subset of artificial intelligence... that measures, understands, simulates, and reacts to human emotions" [40]. Affective computing [31] laid the foundation for emotion AI. With nearly 30 years since Picard's foundational book *Affective Computing*, this panel will discuss, **what should we do with emotion AI now?**, and work toward crafting an agenda for emotion AI going forward.

CSCW scholars investigate emotion AI from diverse angles, both advancing and critiquing it. Prior CSCW work explores emotion AI's potential benefits for social and collaborative activities including caregiving [39], psychotherapy [45], coping with discrimination [38], or visualizing a nation's mood during crisis [46]. In contrast, emerging CSCW scholarship in collaborative computing settings including work, healthcare, and social media critiques emotion AI's potential harms as threatening subjects' agency [19], lacking morality [35], unfairly excluding or exploiting subjects[36], amplifying bias and stigma against subjects [15], and advancing data colonialism [12]. Others call for banning emotion AI for extending a legacy of racist pseudoscience [44] by misinterpreting conjecture as truth [43], creating social media 'empires of feeling' that can contribute emotional manipulation and misinformation [42], and disempowering children in education through surveillance and classification

[16]— highlighting the impact of emotion AI in diverse collaborative settings such as social media and education. Meanwhile, design scholars propose alternative lenses for reimagining emotion AI to be more social and collaborative [11, 22]. Debate continues, while the Emotion AI industry is projected to reach 42.9 billion USD by 2027 [5].

Grounded on panelists' expertise, we will explore provocation such as the following: what futures do we (not) want for the role(s) of emotion and other affective phenomena in social computing? How might those futures impact diverse groups of people? What revolutionary ideas do we need to propel affective computing for the next decades? With its commitment to both building and critiquing sociotechnical systems, CSCW is an apt venue for this discussion – as such, this panel will not only be relevant to those interested in this domain but also those who think critically and reflectively about system and AI design and use. This panel takes emotion AI as an exemplar of collaborative and social computing that engages sensitive data, engaging discourses of privacy, ethics, (subject like worker) surveillance, and policy relevant to a wide range of the CSCW community membership.

2 BACKGROUND ON EMOTION AI IN CSCW AND BEYOND

Terminology for emotion AI varies. Sometimes emotion AI and related techniques are referred to as emotion recognition [7], emotional biosensing [22], algorithmic psychometrics [41], or physiognomic AI [44]. Emotion AI is at a turning point. The EU AI Act of June 2023 bans emotion AI at work and school [30] and regulates AI according to risk level [1, 6]. Picard, who founded affective computing, commented in an interview that, *"The way that some of this technology is being used... worries me so deeply, that it's causing me to pull back myself on a lot of the things that we could be doing...if we're going to go forward with that, how can we do it in a way that puts forward safeguards that protect people?"* [32].

Ekman's 'Basic Emotion Theory' (BET) proposed that universal emotions could be inferred by facial expressions [17]. BET has been adopted in emotion AI systems, and widely critiqued. Critiquing BET, Feldman Barrett and colleagues' review of scientific affect studies revealed scientific weaknesses [8], cautioning against overblown knowledge claims made in popular press about emotion AI [14]. HCI design researchers draw from cultural anthropology to critique BET as culturally reductive, and offer design tactics for leveraging the complexity and ambiguity of emotions as assets enriching the design of computational systems [9–11].

Overall, CSCW scholars, computer scientists, psychologists, advocacy organizations, and policy experts debate emotion AI's benefits and harms. Proponents argue emotion AI can help improve education, customer service, security, hiring practices, productivity, and safety. Critics raise ethical concerns of unfairly labelling people as inattentive students, under-performing workers, security threats, undesirable job candidates, etc. Critics decry risks to privacy and civil liberties as well as cultural, racial, ableist, and gender bias along with privacy harms and imposed emotional labor [8, 15]. Whileethical guidelines for Emotion AI (e.g., [28]) are important to consider, responsibility for algorithmic harm is a matter of ongoing discussion among AI ethics experts [18], and open questions remain

about what we ought to do about and with emotion AI: this panel's focus.

3 ATTENDEES AND PANEL FORMAT

This panel will attract a wide range of attendees across CSCW's interdisciplinary audiences, both academia and industry, both proponents and critiques of emotion AI, and those interested in reflective and critical approaches in system design. We anticipate lively debate across diverse epistemological viewpoints.

Panel Format. The panel will be a moderated discussion among panelists in conversation with the audience. Each panelist will speak for 3-5 minutes to share their expertise and perspective on emotion AI at a high level. The moderator will balance audience questions, their own prepared questions, and drawing emergent connections across the discussion.

Encouraging audience interaction. Emotion AI and its surrounding discourse is contentious – with some believing in its revolutionary power and some calling it "fundamentally dubious" "AI snake oil" that does not and cannot work [29]. As such, we expect that the panel will spark conversation and audience questions from across this continuum. To encourage audience interaction, we will create a comfortable atmosphere using the following tactics: (i) the moderator will prompt panelists to say a few words about their journeys, not only their academic accomplishments and expert perspective, (ii) the moderator will prepare and select (audience) questions showing a range of epistemological leanings, and (iii) fostering an expectation that respectful polyvocality and lack of consensus are desirable attributes of discussion. The moderator's prepared questions will set the example that a range of questions are acceptable, whether simply asking for more explanation, asking about potential ethical benefits or harms of an approach, or drawing tentative links in the discussion, are all acceptable to bring forward. In doing so, the panel can host fearless cross-disciplinary discussion, in which epistemological disagreements become sparkling points of debate. To engage the audience, we will take questions from in-person and online participants, and include a slid.o link that affords anonymous and identified question asking and an upvote feature so attendees can vote on questions they want asked the most.

Accessibility and technical requirements. We will host the panel in-person with a possible online panelist, but also panelists' audio mic'ed into a video call that their speech can be auto-transcribed for deaf or hard-of-hearing participants, and this transcription will be displayed for the audience. If panelists use slides, we will ensure that they are accessible. Our tactics described in 4.1 will ensure that neurodivergent attendees will have opportunities to equally participate. We have ample experience hosting hybrid sessions to support this, and will work with the Accessability and Hybrid Chairs to achieve an accessible experience depending on the venue and what will technically be feasible there. We need a setting that allows one possibly remote panelist and afford accessibility plans.

4 PANELISTS

Our carefully convened selection of panelists represents the full spectrum of emotion AI perspectives, from pioneers advancing emotion AI to the staunchest critiques calling for complete bans.

Nazanin Andalibi is a CSCW and HCI scholar working at the intersection of marginality and technology. She examines emotion AI's ethical, privacy, and justice implications across contexts (e.g., workplace, hiring, healthcare). This research has been funded by the National Science Foundation including a CAREER award and published at venues like CHI and CSCW.

Luke Stark is a historian and media studies scholar who has published extensively at ACM conferences including FAccT, CHI, and CSCW. His current book project, a history of emotion and affect in the history of computer science and artificial intelligence, is currently under advance contract with the MIT Press.

Rosalind Picard is often considered the godmother of affective computing, which laid the foundation for emotion AI. She wrote the book *Affective Computing* [31] and co-founded two startups, Affectiva and Empatica, pioneering the cutting edge of emotion AI and analyzing physiological data.

Jonathan Gratch investigates emotion recognition and modeling to yield insight into the role of emotion in human collaboration and conflict. He will discuss the role of automatic methods within the domain of conflict resolution, including predicting when team or customer interactions are escalating into conflict, and exploring automated tutoring methods to help individuals manage conflict. He is head of the Affective Computing Group at USC and founding Editor-in-Chief (retired) of IEEE's Transactions on Affective Computing.

Daniel McDuff is a Staff Research Manager at Google and an Affiliate Professor at the University of Washington. Daniel's research contributions include novel forms of sensing and AI that support health and wellbeing. Daniel's research is applied in consumer products used by millions of people on a daily basis. He has published over 200 peer reviewed research articles on the topics of affective computing, machine learning, AI and human computer interaction.

Moderator Noura Howell is a design researcher investigating emotion AI. Her work critiques sociocultural implications of emotion AI, builds interactive displays of algorithmically estimated emotion and studies people's experiences with these displays through qualitative methods, and offers design tactics for critically reimagining emotion AI [22–25].

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