Engineering and Computer Science Lecture Series

Machines with Emotional Intelligence

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Roger's - Rm. 104

Over 70 studies on human-machine interaction in the last decade have pointed to an intriguing phenomenon: People interact with computers in a way that is basically social, even when the interaction was not designed to be that way. This finding suggests that human-human interaction can serve as a guide for designing computer systems that interact better with people. It also suggests that we should rethink what it means for a machine to be intelligent.

A number of scientists have argued that emotional intelligence is more important than mathematical and verbal intelligence. Whether or not this is true, it is becoming clear that skills involved in emotional intelligence are critical for crafting an intelligent computing system. Emotional intelligence includes the ability to recognize emotion – to see if you're irritated or annoyed, pleased or displeased, bored or interested. It includes the ability to know when to show or not show emotion, the ability to figure out how to respond to another's emotions, and several other skills, such as knowing how to regulate emotions and use them in service of a goal.

In this talk, I'll describe how we're giving computers some of these skills, specifically the ability to recognize and respond appropriately to human emotion. I'll show examples of ordinary desktop computers that can help assess user frustration for improving usability, wearable computers that communicate affective information for health applications, and work in progress toward a computerized learning companion that would respond to a child's boredom or interest with cues that help him or her persevere with a difficult learning task.