



# SPEECH AS INTERFACE TO INTELLIGENT MACHINES: HISTORY AND FUTURE PERSPECTIVES

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*“virtual reality will be ‘one thousand’ times bigger than augmented reality”*

*“The really big one right now is audio. Audio is on the rise just generally and particularly with Apple and the AirPods, which has been an absolute home run (...). It’s one of the most deceptive things because it’s just like this little product, and how important could it be? And I think it’s tremendously important, because **it’s basically a voice in your ear any time you want.**”*

*“Of course, speech as a [user interface] is rapidly on the rise. So I think **audio is going to be titanically important.**”*

- Marc Andreessen (Jan 2019)

Listen. Recognize. Understand. Recommend. Control. Interact. Predict.





Music as SOUND

Music as LANGUAGE

Music as EMOTION

Music as INTELLIGENCE

Music as COMMUNITY



Dictation Systems. Voice Control.

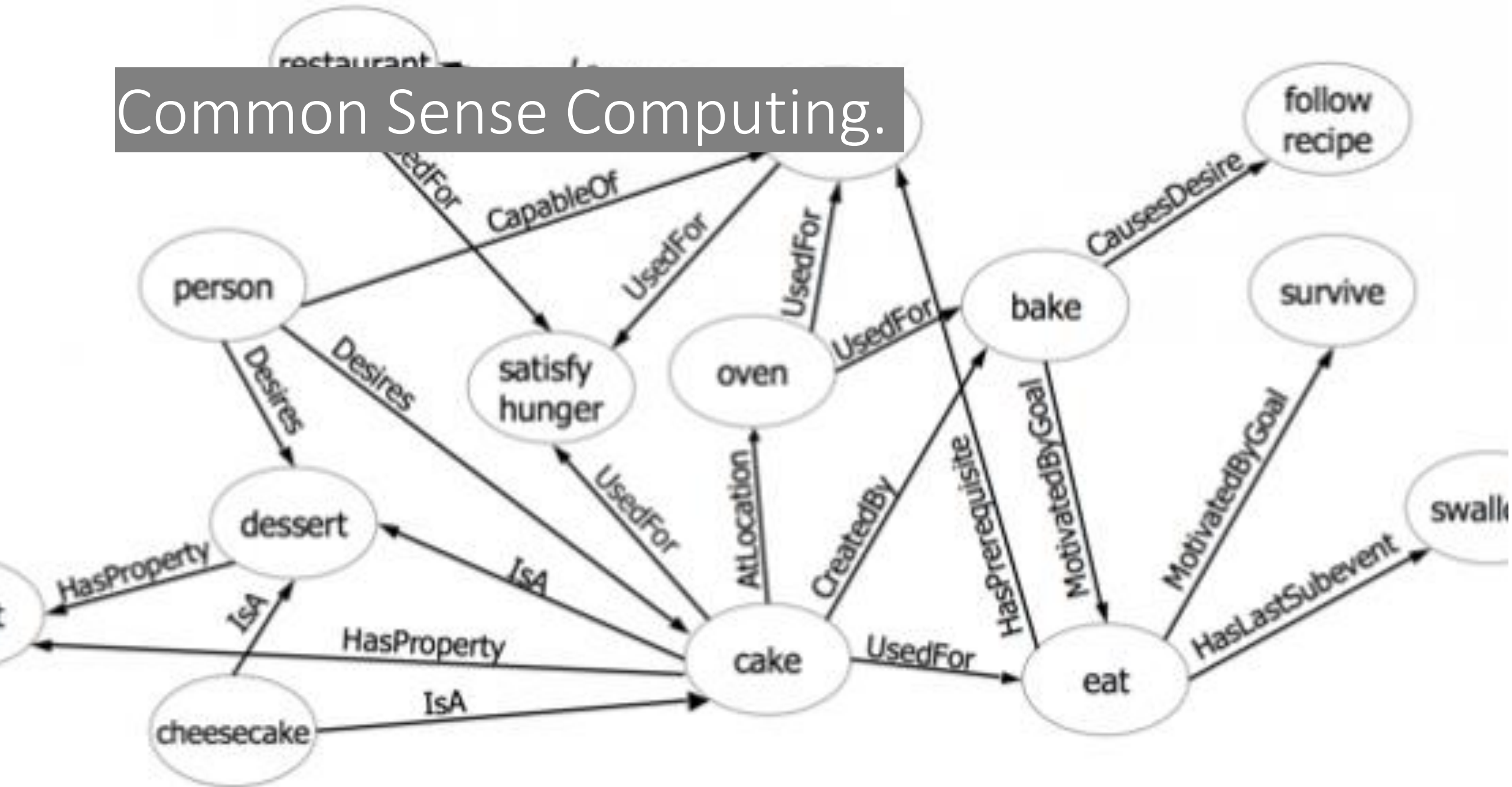




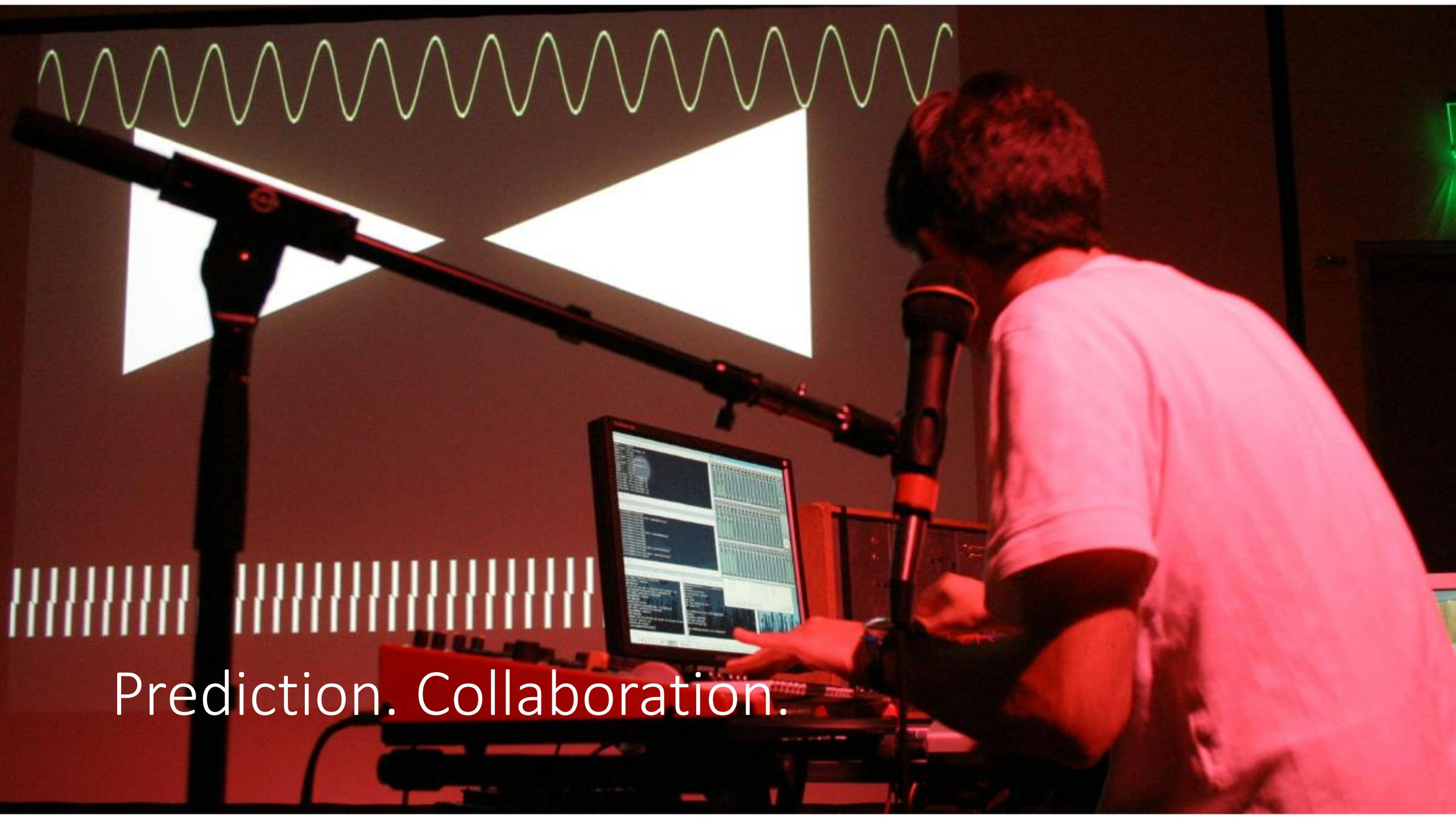
# Interaction.



# Common Sense Computing.







Prediction. Collaboration.



# Affective Computing.

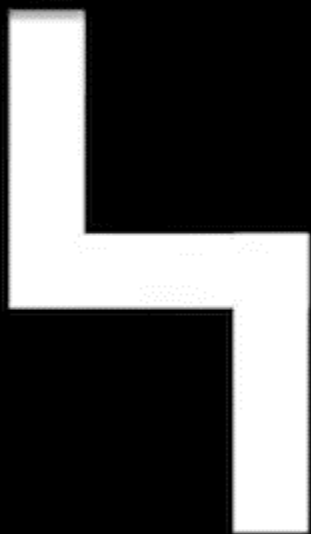


# Emotion as a Service.

<b>SMILE</b>	<b>100</b>
<b>JOY</b>	<b>99.991</b>
<b>CONTEMPT</b>	<b>0.00</b>
<b>ANGER</b>	<b>0.00</b>
<b>EXPRESSIVENESS</b>	<b>100.00</b>

Smart Speakers. Social Robots.







Bias. Transparency.







Ecology.



*« The best way to predict the future is to create it. »*

- Abraham Lincoln