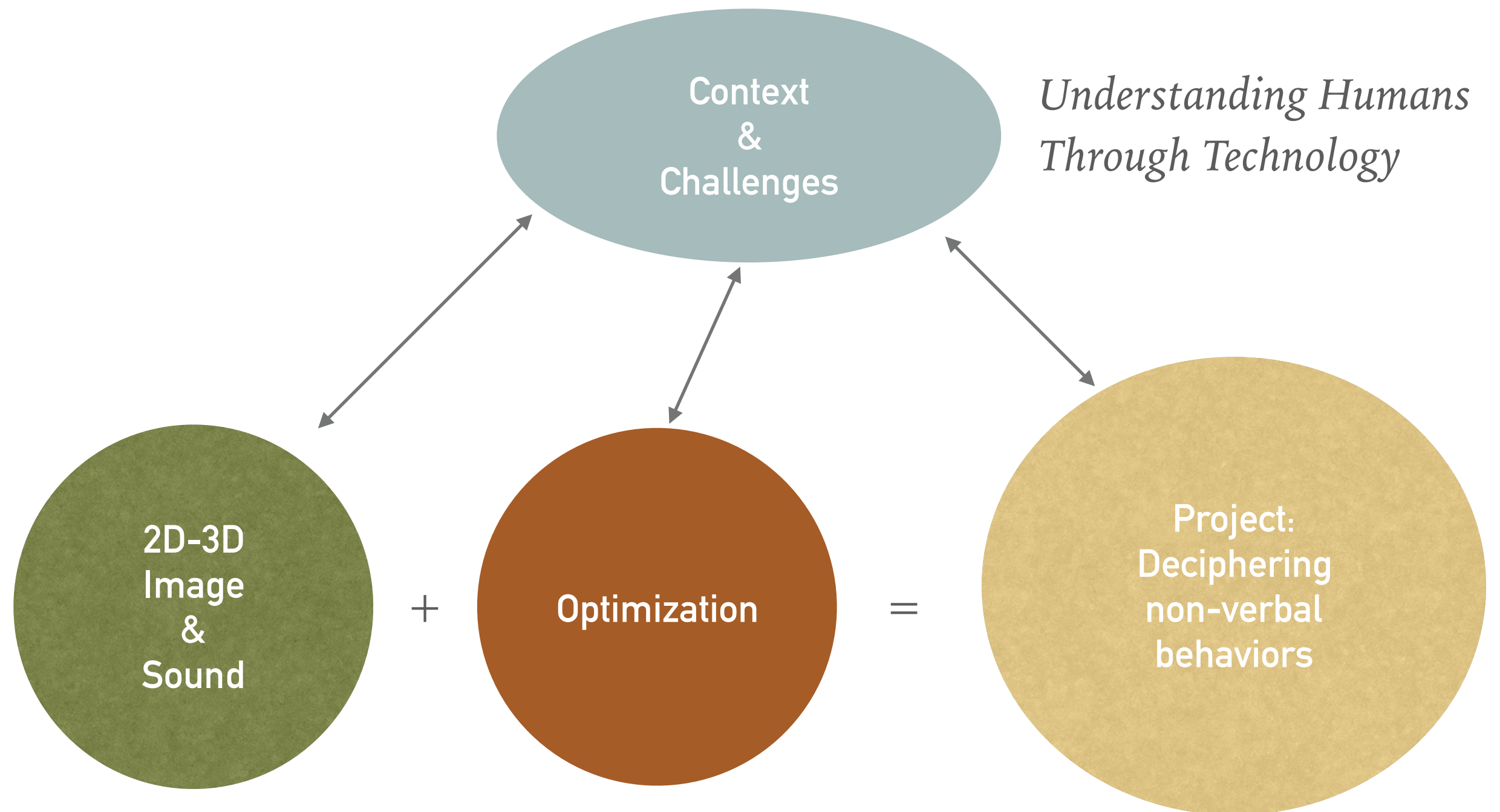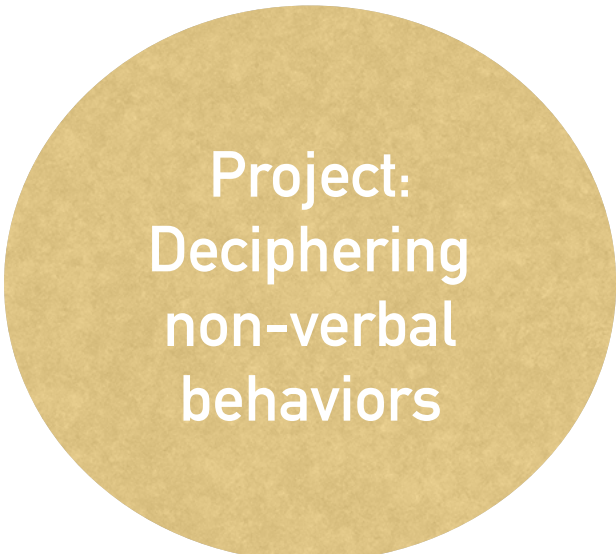# ST ORGANIZATION

PROJECT: DECIPHERING NON VERBAL BEHAVIORS
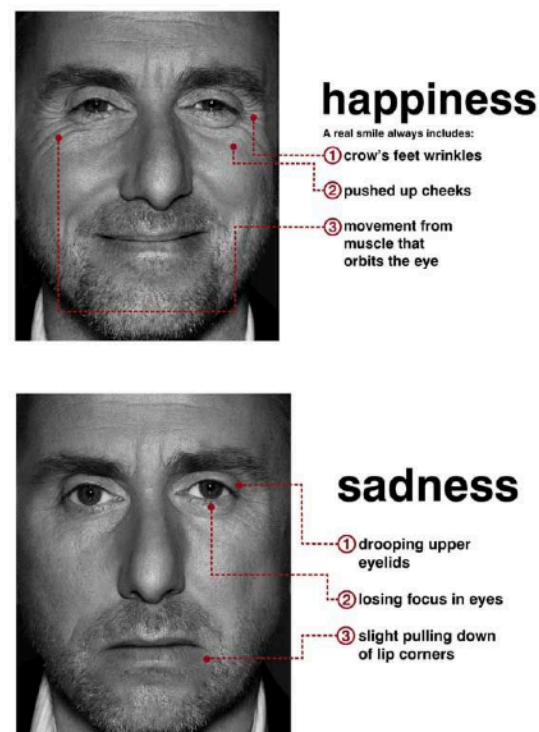
Organisation & First Step

Project: Deciphering non-verbal behaviors

Catherine SOLADIE

WHAT YOU UNWITTINGLY SAY

Letters, words, sentences: the algorithms we have today are more and more effective in decrypting our grammar, and understanding what we can say. And yet this only covers a tiny part of our communication.

Joy, resignation, irony: only our body and the tone of our voice reveal our deep intentions, our real message, and the automated understanding of such human behaviors and emotions is a big challenge.

happiness
A real smile always includes:
1. crow's feet wrinkles
2. pushed up cheeks
3. movement from muscle that orbits the eye

sadness
1. drooping upper eyelids
2. losing focus in eyes
3. slight pulling down of lip corners

To take it up, every year, the audio, video and machine learning communities gather around international challenges of research on the automatic analysis of human behaviors: emotions, depression, mood, motion detection, ... (ex: http://sspnet.eu/avec2017/).

MANY RESEARCH CONFERENCES ON THE TOPIC

ICMI conference:
International Conference
on Multimodal Interaction

ACM Multimedia Conference

FG conference:
Face & Gesture

ICIP conference:
International Conference
on Image Processing

Those conferences organize research challenges

WHY RESEARCH CHALLENGES?

HOW?

To make labelled dataset available to the research community.

To be able to compare results of different solutions (algorithms):

  same data
  same metrics
  same conditions (processing time, …)

To make the solutions available to the community (papers and sometimes code).

To get better solutions each year.

Participate in one of these challenges

You will have a large dataset representing people in action and will have to automatically determine their behavior and emotions.

AVEC: Audio Visual Emotion Challenge

2011: Emotion recognition

…

2016: Depression, Mood, & Emotion recognition

2017: Real life Depression & Affect

2018: Bipolar Disorder & Cross-cultural Affect

2019: State-of-Mind, Depression, & Cross-cultural Affect

MuSe: Multimodal sentiment in Real-life Media Challenge

2020: Sentiment, Emotion, Trustworthiness

2021: ?

ACM Multimedia Conference

⭕ Important Dates

- Submission of Grand Challenge Proposals: **24 January, 2021**
- Notification of Acceptance: **14 February, 2021**
- Web Site and Call for Participation Ready: **1 March, 2021**
- Submission of solutions Grand Challenge: **11 July, 2021**

https://www.muse-challenge.org/home

https://2021.acmmm.org/multimedia-grand-challenges.html

Participate in one of these challenges

You will have a large dataset representing people in action and will have to automatically determine their behavior and emotions.

EmotiW: Emotion Recognition in the Wild Challenge

2016: Video & Group-Level Emotion Recognition

2017 : Audio-Video & Group-Level Emotion Recognition

2018: Engagement, Audio-Video & Group-Level Emotion Recognition

2019: Engagement, Audio-Video Emotion & Group-Level Cohesion

2020: Audio-Video & Group-Level Emotion Recognition, Driver gaze direction, engagement, Physiological signals

2021: ?

ICMI conference: International Conference on Multimodal Interaction

Important Dates and Contact Details

Proposals due	January 27, 2021
Proposal notification	February 3, 2021
Paper camera-ready	August 17, 2021
Grand challenge date	October 18 or 22, 2021

https://sites.google.com/view/emotiw2020

https://icmi.acm.org/2021/index.php?id=challenges

Participate in one of these challenges

You will have a large dataset representing people in action and will have to automatically determine their behavior and emotions.

MEGC: Micro-Expression Grand Challenge

2018: Recognition

2019: Recognition, Spotting

2020: Recognition, Spotting on long videos

2021: ?

FG: Face & Gesture
Or
ICIP: International Conference on Image Processing

https://fg2020.org/the-third-facial-micro-expressions-grand-challenge-megc-new-learning-methods-for-spotting-and-recognition/

https://2020.ieeeicip.org/challenge/micro-expression-recognition-challenge/

You will have a large dataset representing people in action and will have to automatically determine their behavior and emotions.

CER&MMER: Compound Emotion Recognition and Multimodal (Audio, Facial and Gesture) based Emotion Recognition

2020: Compound emotion recognition

2021: ?

FG: Face & Gesture

https://fg2020.org/competitions/competitions-cer-mmer/

Teams

Each project team focuses on a particular study (eg the voice, the face, ...), and all teams will gather their work to collectively deposit a unique participation in the international challenge.

NEXT STEPS

➤ Make groups of 5

➤ Choose a challenge

➤ Get the database (of previous challenges)

➤ Visualise and understand the database

➤ Understand the solutions (research papers)

➤ Reproduce / adapt the solutions

➤ Find the limits

Appointments with your project supervisor

QUESTIONS ?