

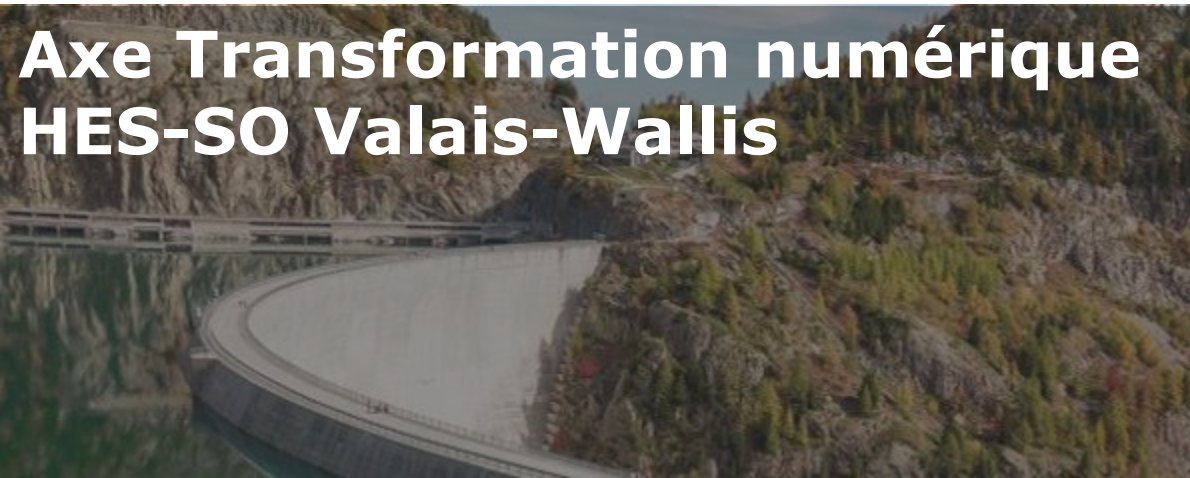
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Energy EmoMaps:

online platform for emotional mapping and sentiment analysis of energy projects

Prof. Dr. Pamela Delgado (PI)

Axe Transformation numérique
HES-SO Valais-Wallis



> Interdisciplinary team



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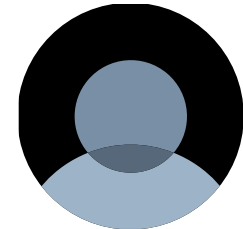
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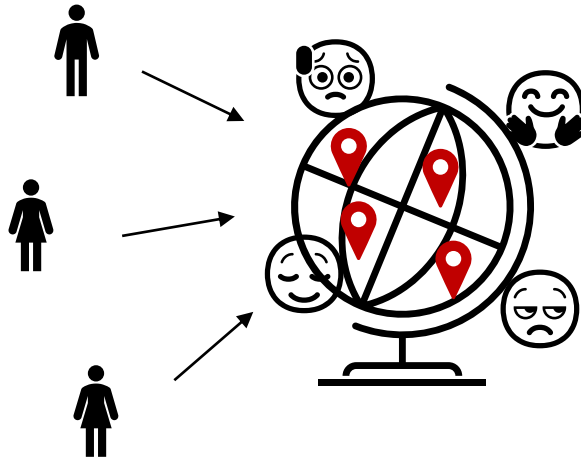
> Hydroelectric planning and emotions

Social participation and affective engagement

- Dominant source of energy in Switzerland
- Impacts psycho-sociaux des grands projets hydroélectriques.
- Place des émotions dans les processus de planification énergétique?
- 27 videos Valais, 30 videos El Quimbo - Colombia

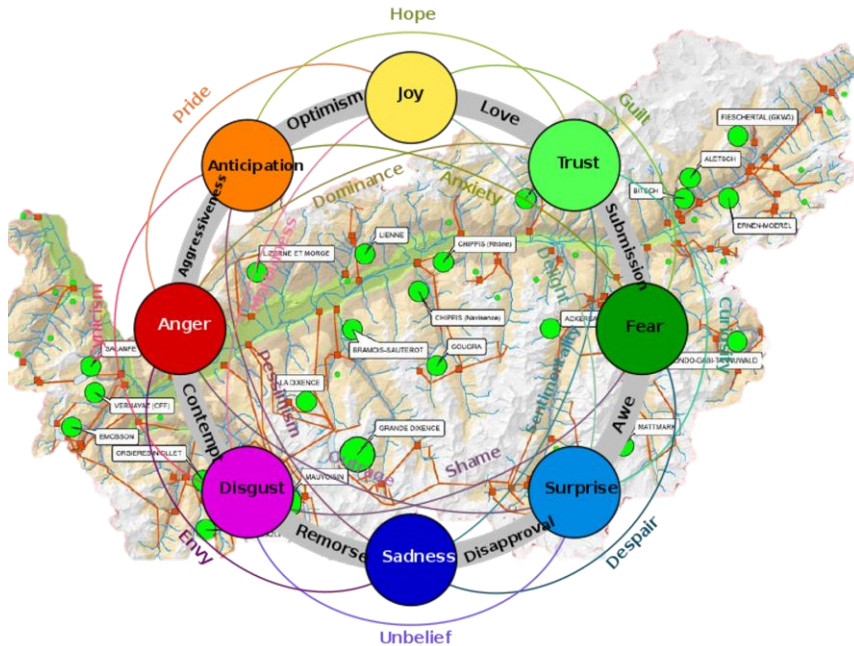
> Emotional mapping

Participatory creation/contribution to a map by displaying emotional experiences



- Highlighting complex relationships between **emotions** and **spaces** (Giesecking 2013)
- Raise public **awareness**
- Energy projects: **insights** about safe areas & needed improvements

➤ Energy EmoMaps



1. Interactive map platform

- a. Creation of interactive map with existing videos.
- b. Finalize post-production and transcription of existing videos.

2. Sentiment analysis

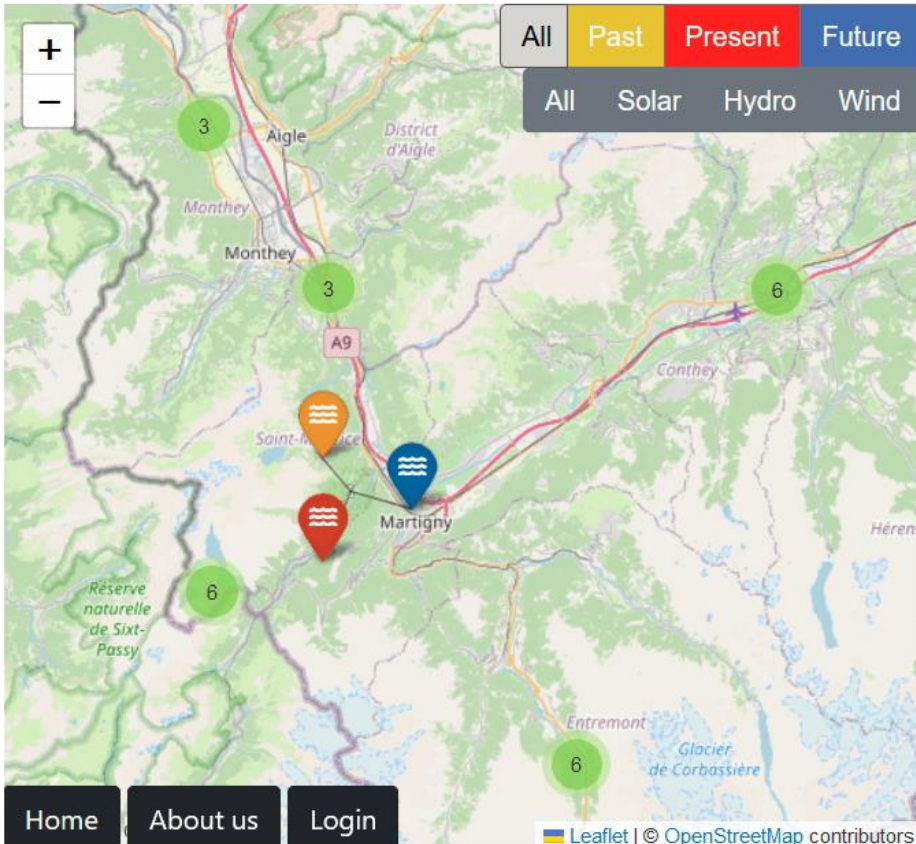
- a. Evaluation of existing NLP sentiment analysis methods for the Energy EmoMaps use case.
- b. Augment interactive map with sentiment analysis.

3. Validation

- a. Validation and valorization of sentiment analysis.

> 1. Interactive map platform

- Energy EmoMaps interactive map deployed at HEVS
- <https://energy-emomaps.hevs.ch/>
- Accessible with VPN
- Open tools used when applicable



Demo streamlit.app

> 2. Sentiment analysis

Sentiment analysis model

- Sentiment analysis model training
- Output: kiviatic diagram with global % score for each paragraph



> 2. Sentiment analysis



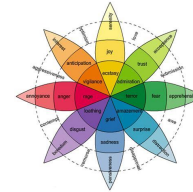
Transcript



Citations



Translation



Detection



Evaluation

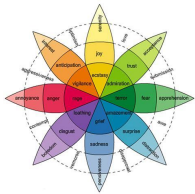
Pipelines emotion detection

> Translation & Detection Models



Translation

Helsinki-NLP
(from Spanish/French to English)



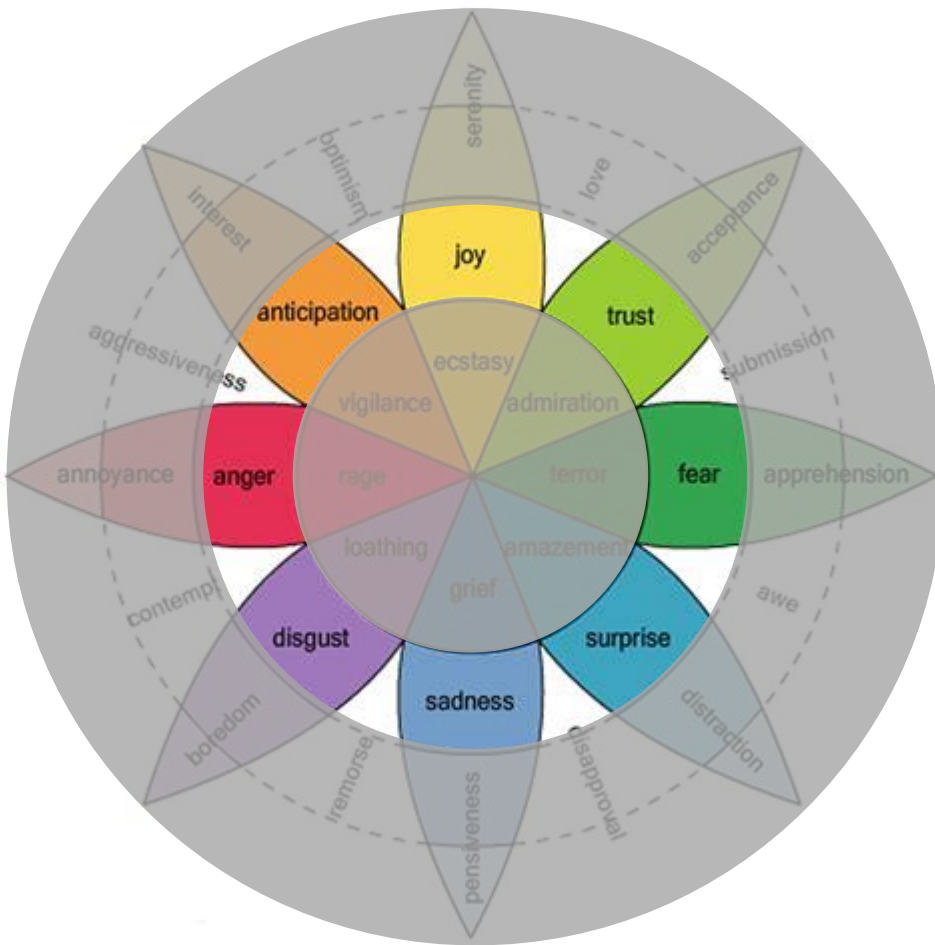
Detection

Distilbert-Plutchik
(a BERT based model pre-trained
on Plutchik emotion's wheel)

➤ 3. Sentiment analysis Validation

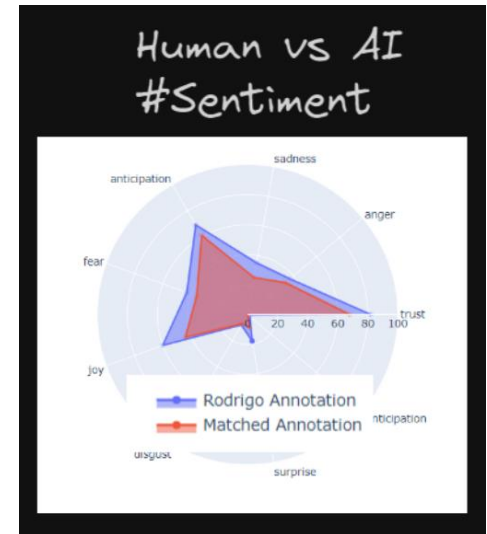
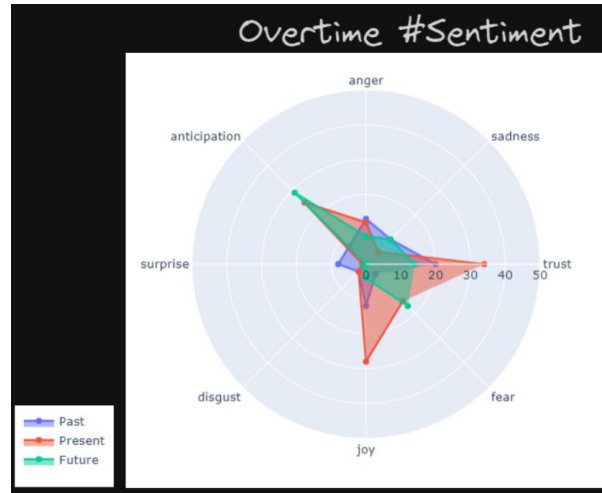
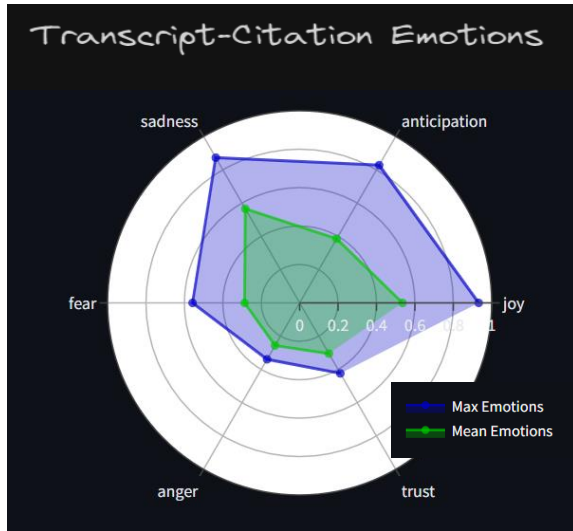
Sentiment analysis validation

- Expert mapping of sentiments in transcripts, according to Plutchik's emotion wheel
- Use of atlas.ti for codifying sentiments, in progress



Plutchik emotion wheel

> Evaluation



> What's next

- Sentiment analysis validation
 - more social work experts
 - human bias
- Other use cases/studies

- Other domains?

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so
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➤ **Thank you for
your attention!**

Questions ?