

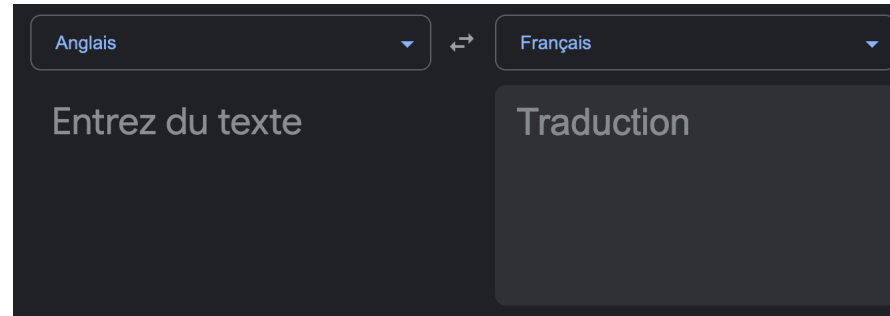
Wir leben Fundraising – mit Freude und im Dialog.

Herzlich willkommen

Prof. Giuseppe Ugazio,

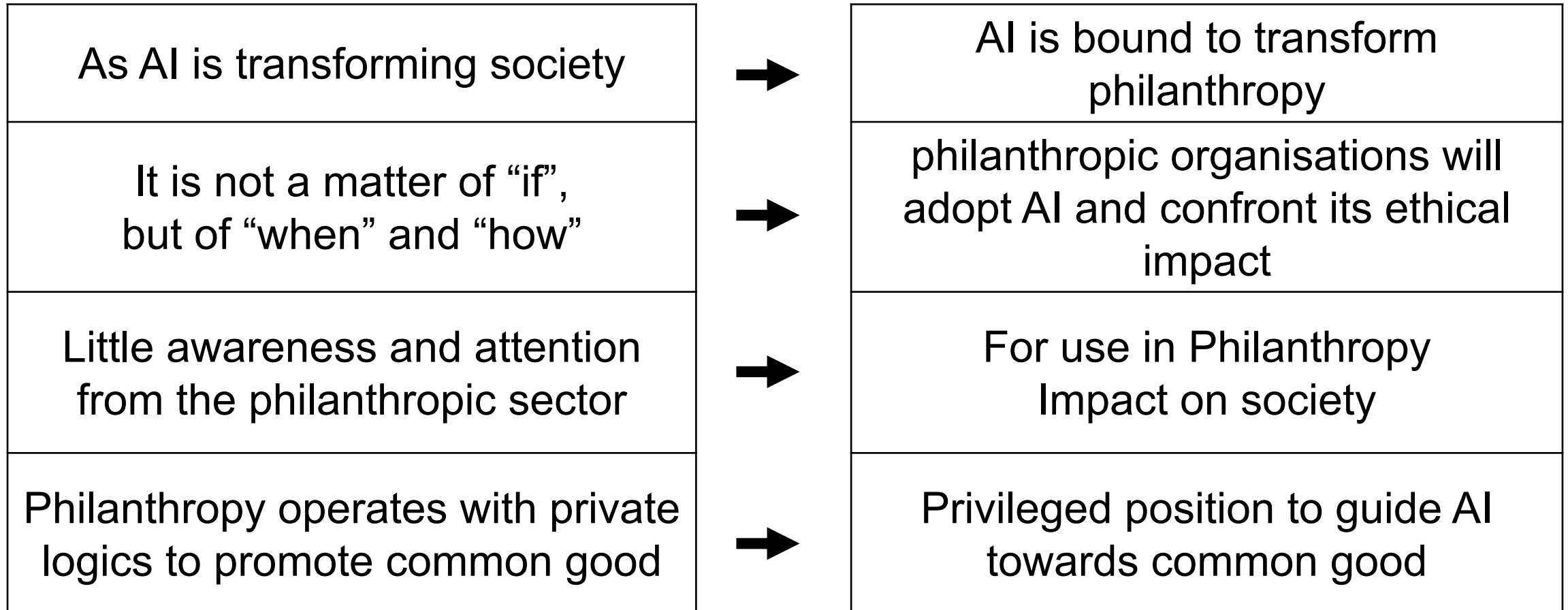
Edmond de Rothschild Foundations Chaired Assistant Professor in Behavioral Philanthropy
Geneva Finance Research Institute, University of Geneva

Artificial Intelligence

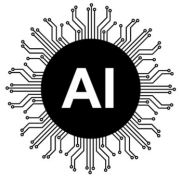


A system that performs tasks that would require intelligence if performed by humans

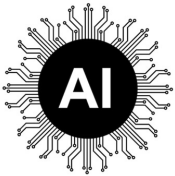
Artificial Intelligence and Philanthropy



AI and Philanthropy: two areas of focus



AI for Philanthropy: developing tools that support philanthropic organizations' operations and strategies

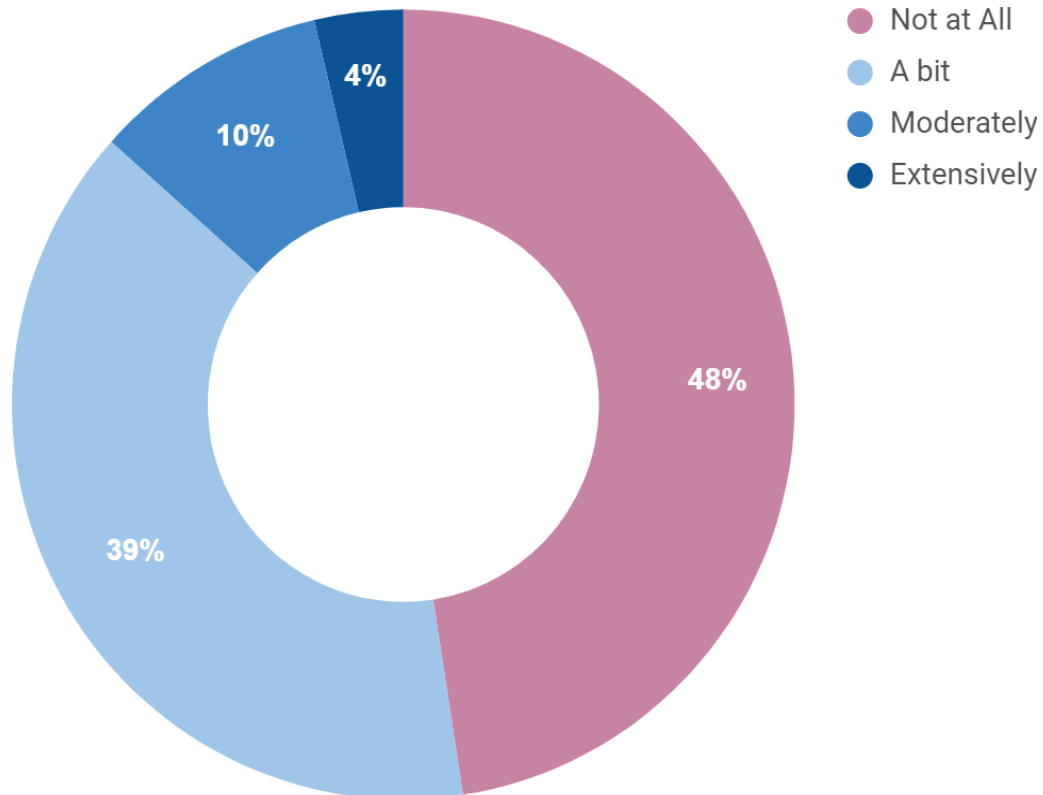


Philanthropy for AI: Leveraging philanthropic organizations' potential to ensure the ethical and inclusive development of Artificial Intelligence

A Survey of AI and Philanthropy among Swiss POs

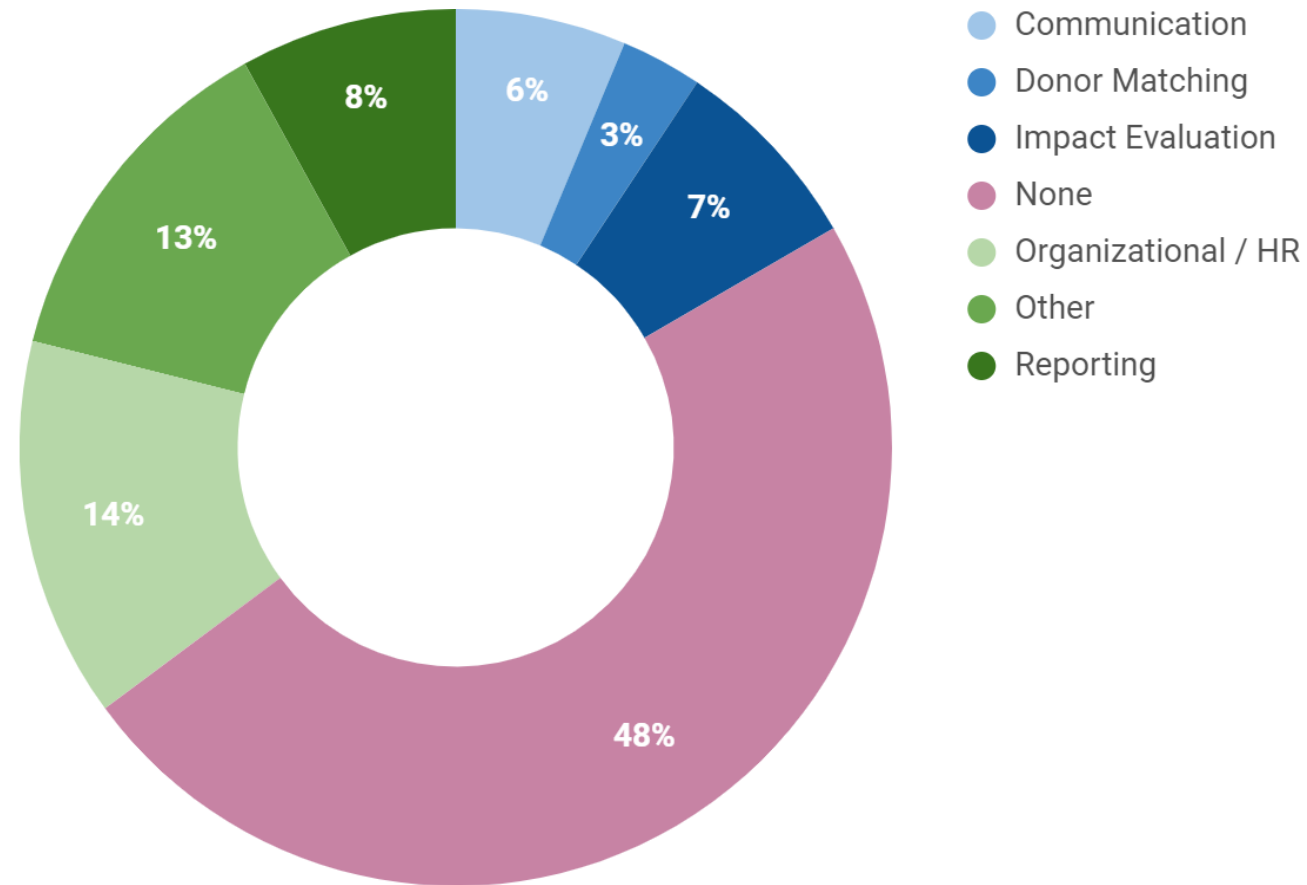
- › Do organizations use AI?
- › If yes, for what purposes is AI used?
- › In which areas would organizations want to have AI assistance?
- › What are the main concerns on the use of AI?

Is AI used by Swiss POs?

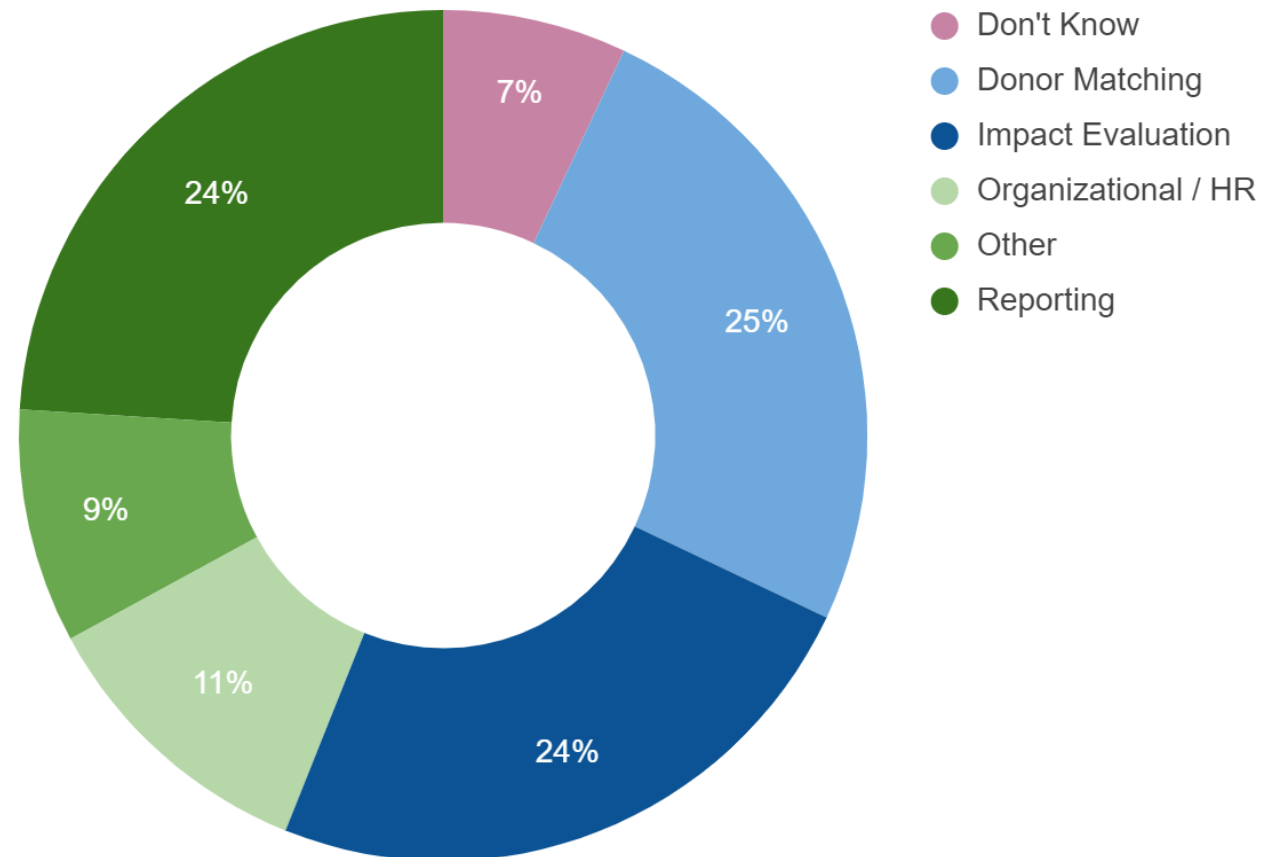


A word of caution: our results are likely biased (organizations using AI more likely to participate in the survey)

In what area is AI Used?



AI assistance would be helpful for my organization in:



What are the main concerns of using AI?



A promising form of AI for Philanthropy: **Natural Language Processing**

- › Decision tree classification of foundations in International Classification of Nonprofit Organizations (INCPO – International.)
categories data = foundations' names - Litofcenko et al., 2019
- › Several methods for classifying foundations in National Taxonomy of Exempt Entities (NTEE – U.S.)
categories – Ma et al., 2021

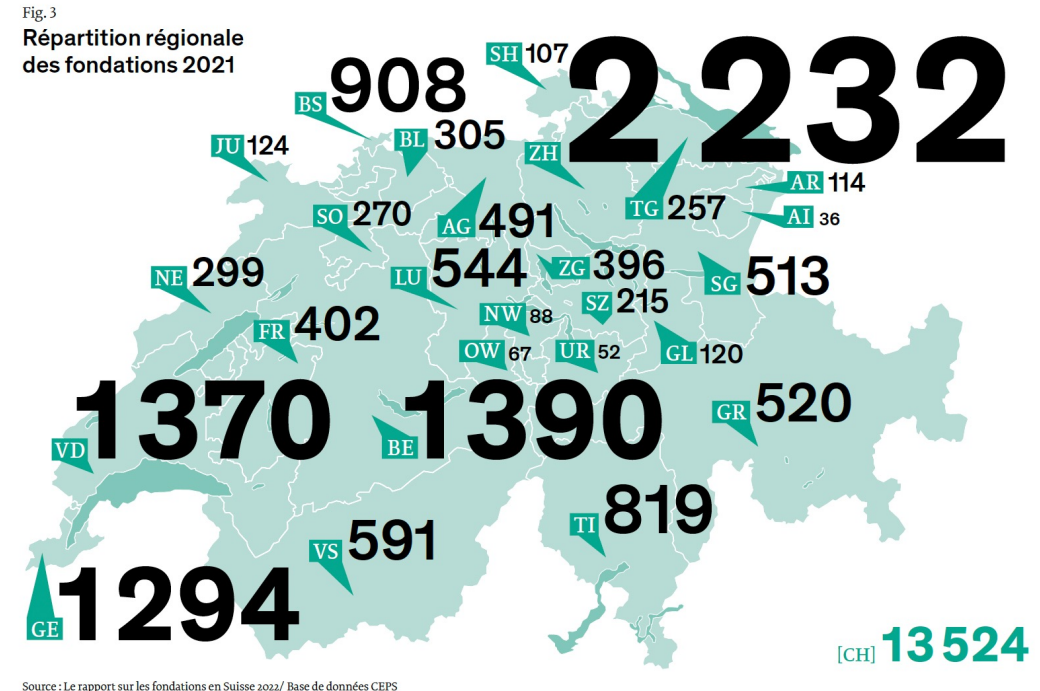
Limitation: Classifications are static, philanthropy & society is dynamic

Supporting Philanthropy Strategic Planning with NLP

- › In what and in how many areas do POs operate?
- › According to which Type do these work (Donors vs. Operating)?
- › Are different Types of POs using a similar language?
- › What motives determine POs engagement?
- › To which extent are the U.N. SDGs addressed by POs?

Philanthropy in Switzerland a use case on AI for Philanthropy

- › About 17.000 POs in Switzerland
- › No comprehensive database of these POs



Big NLP Data on Swiss POs

- › Collected Mission Statements from ≈ 13.000 Philanthropic Organizations
- › Identified 8485 unique and meaningful words from 12766 POs.

Translation → Word Tokenization → Lemmatization → TF-IDF scoring
& pruning

Fname	word	n	total	tf	idf	tf_idf
Foundation 1	community	1	4	0.25	0.6931472	0.1732868
Foundation 1	parish	1	4	0.25	0.6931472	0.1732868
Foundation 1	promotion	1	4	0.25	0.6931472	0.1732868
Foundation 1	youth	1	4	0.25	0.0000000	0.0000000
Foundation 2	clubs	1	4	0.25	0.6931472	0.1732868
Foundation 2	leaders	1	4	0.25	0.6931472	0.1732868
Foundation 2	training	1	4	0.25	0.6931472	0.1732868
Foundation 2	youth	1	4	0.25	0.0000000	0.0000000

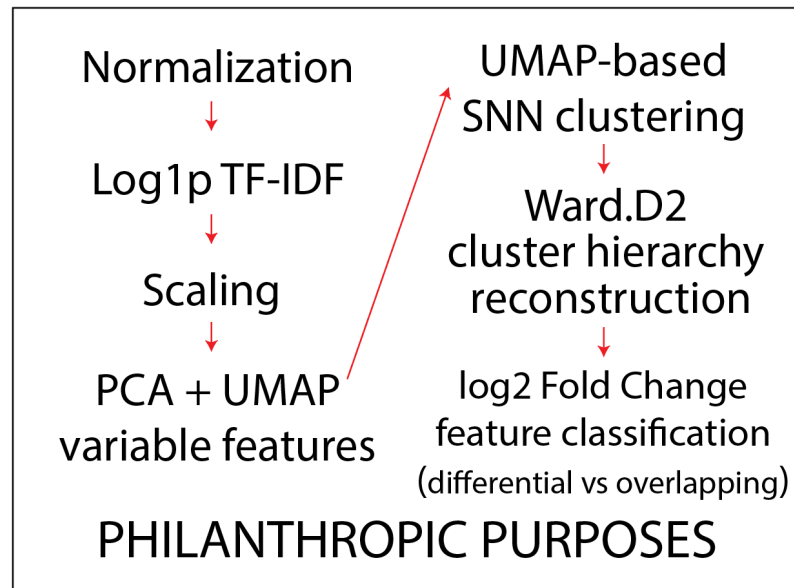
example

Our approach in a nutshell

Machine Learning algorithms (NLP) to analyze Philanthropic Communications

Unsupervised Learning – Philanthropic Landscape
(Cluster organizations in Areas of Activity)

MISSION STATEMENTS' CLUSTERING



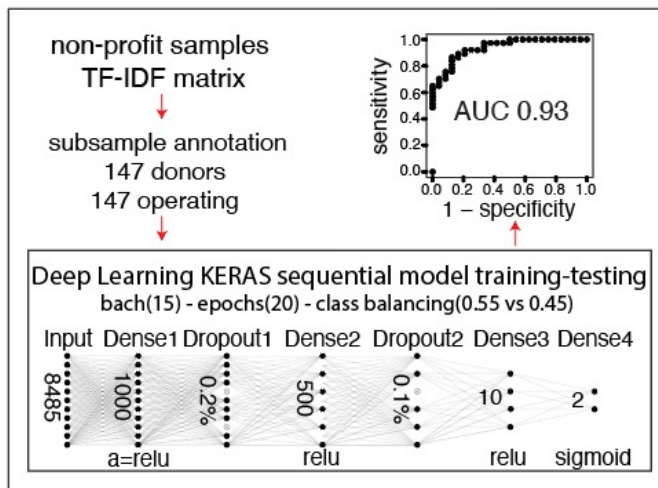
Our approach in a nutshell

Machine Learning algorithms (NLP) to analyze Philanthropic Communications

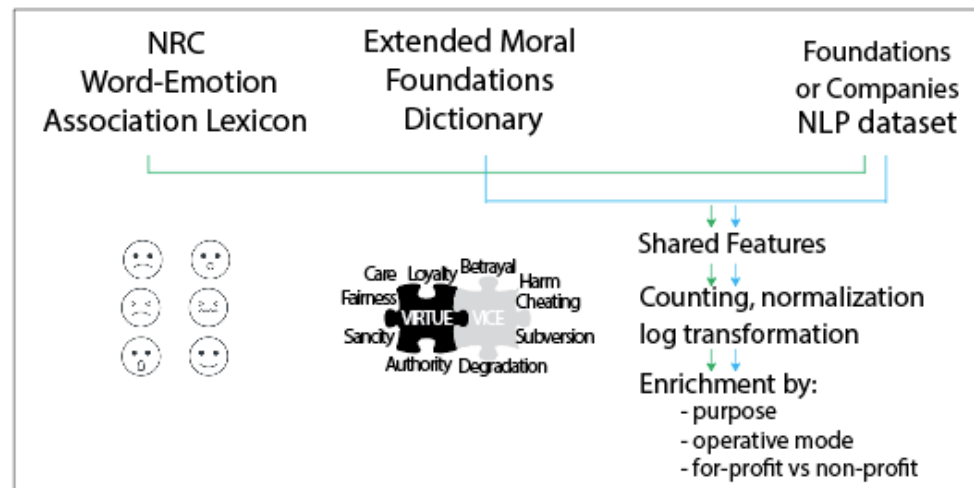
Supervised Learning

Operation Mode, communication overlap, motives, SDGs

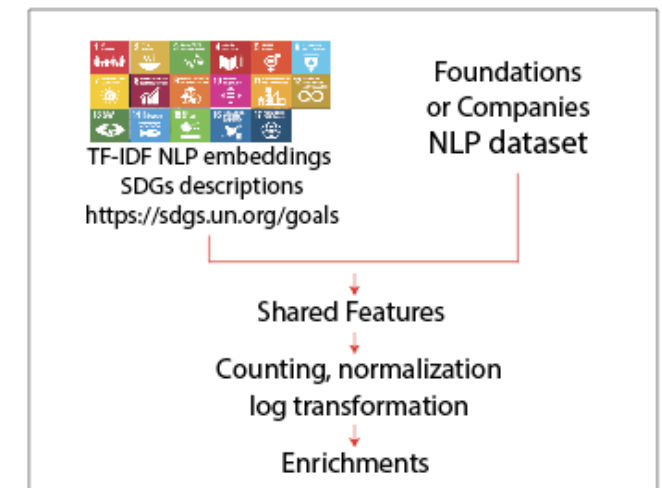
OPERATIVE MODE PREDICTION



LEXICON-BASED ANALYSIS: Emotions & Moral Values

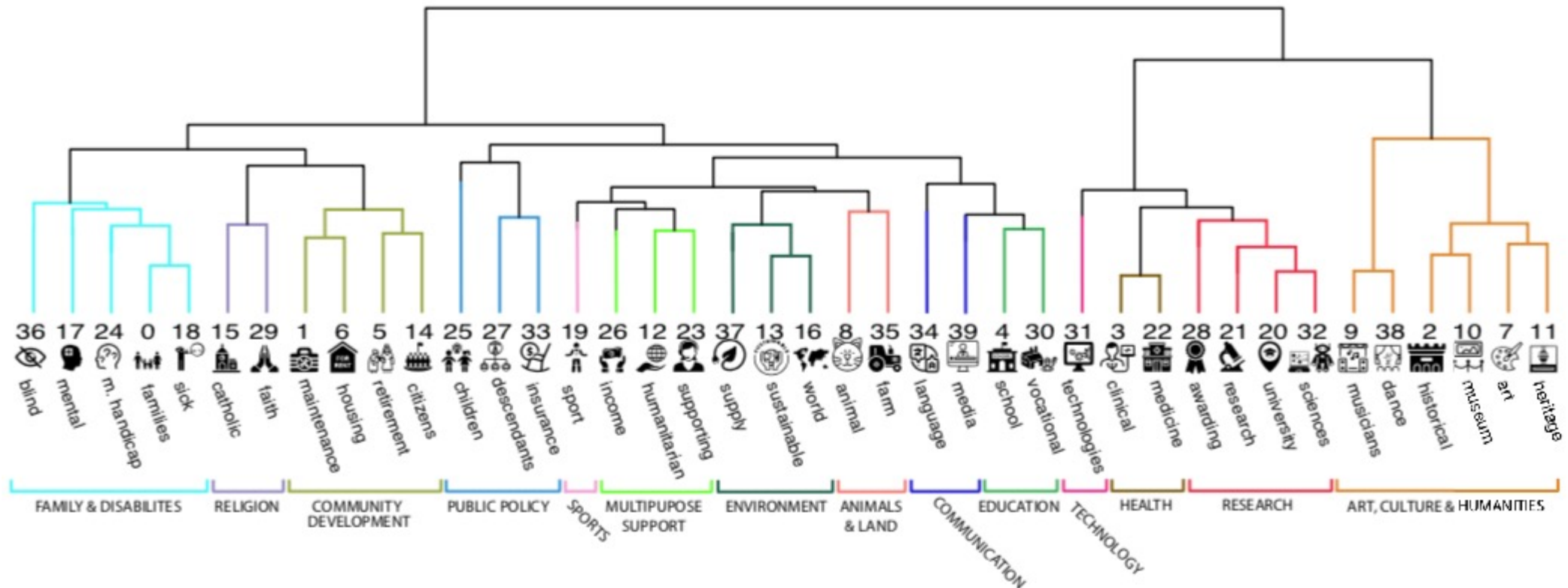


Sust Dev Goals (SDG) COVERAGE

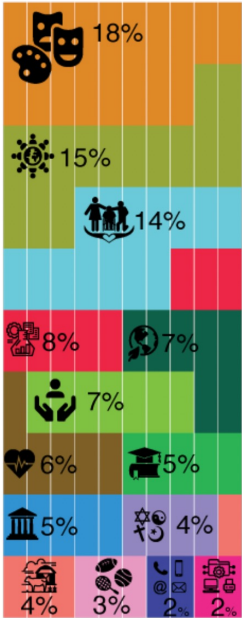
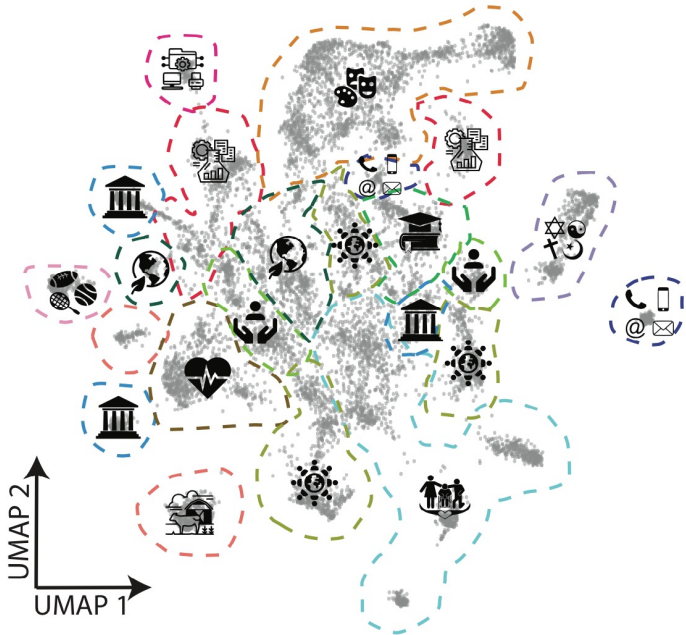


In what areas do POs operate

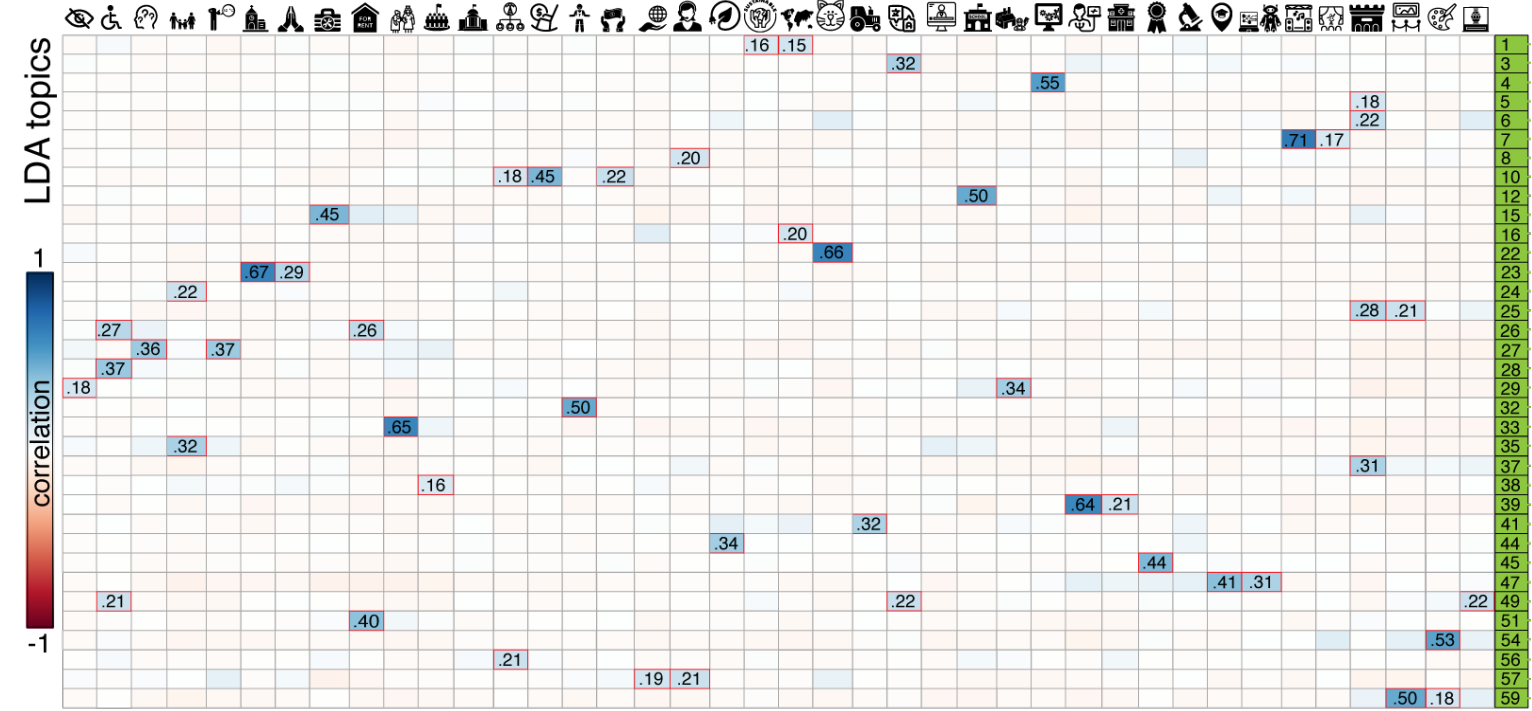
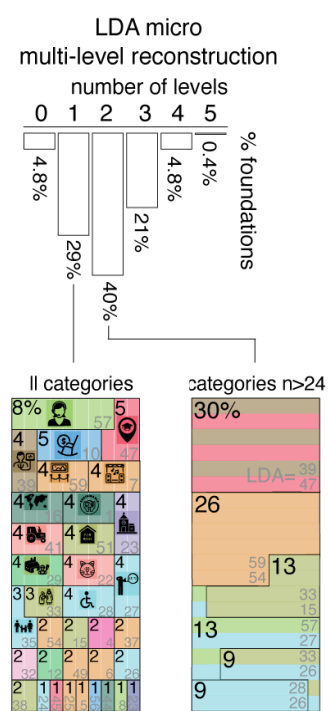
40 different Areas of Activity



In what areas do POs operate



How engaged is a PO in a given area of activity

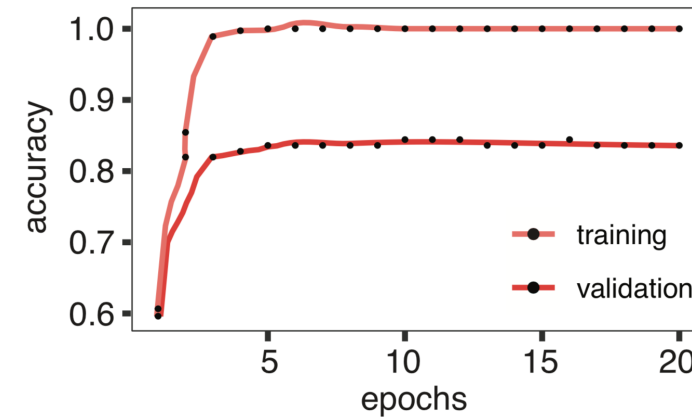
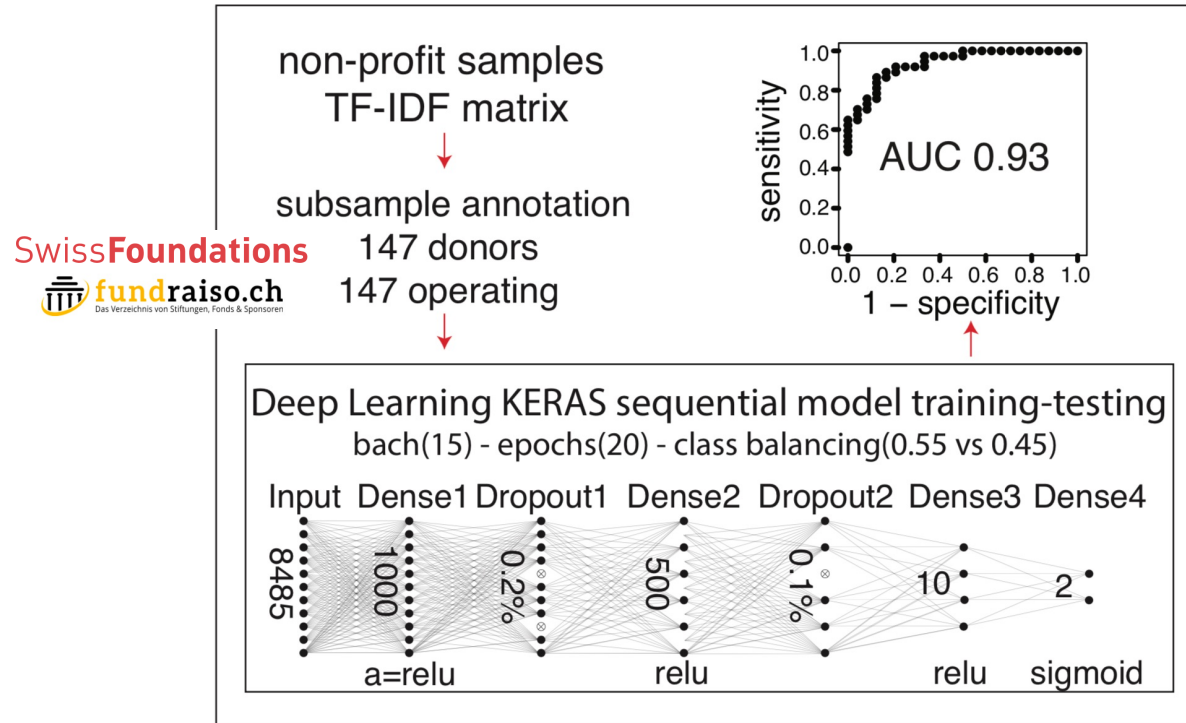


1° - 66% LDA topic 12 – education macrodomain

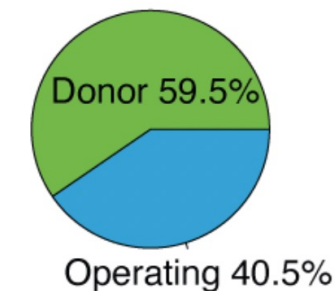
2° - 25% LDA topic 21 – family macrodomain

Classifying Type of POs

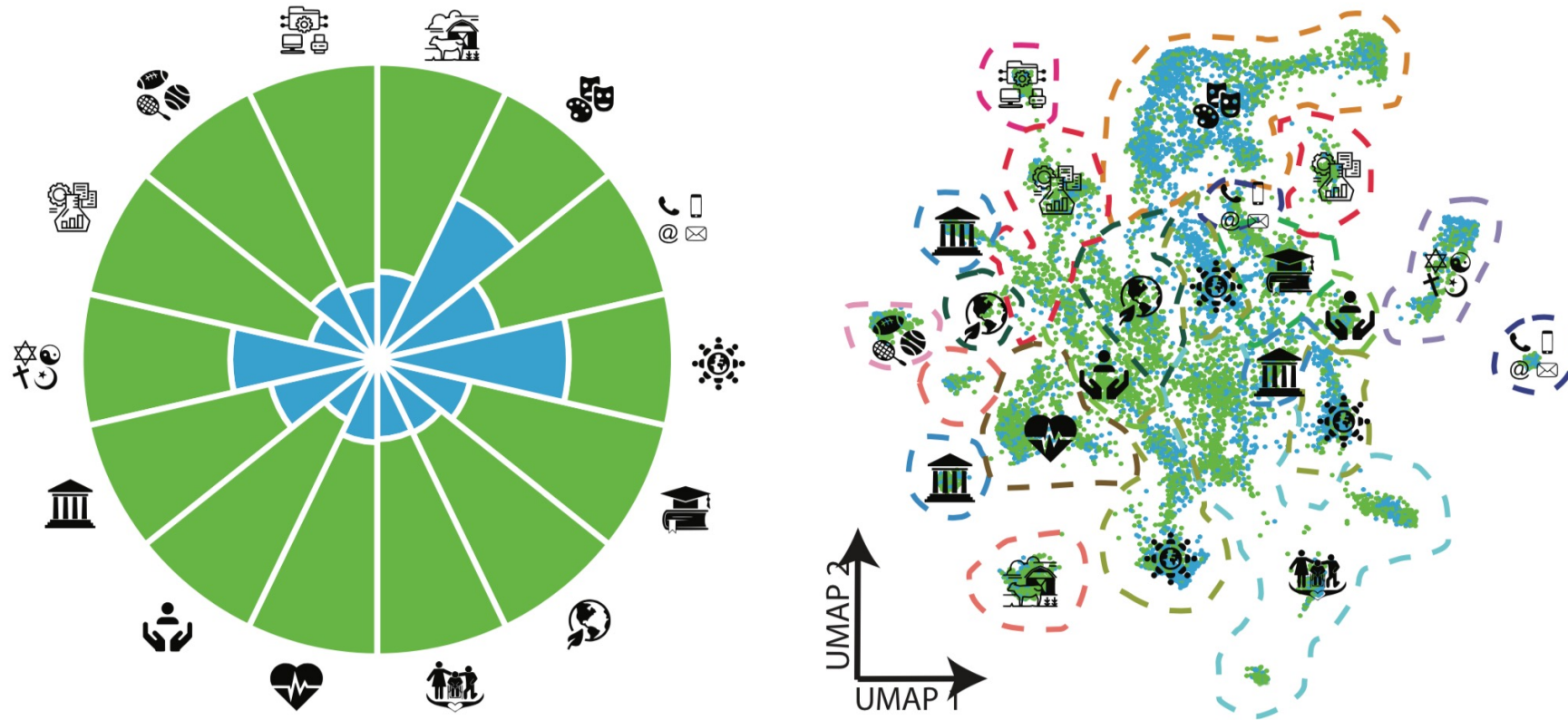
OPERATIVE MODE PREDICTION



Prediction Result



Type of POs Across Areas of Activity



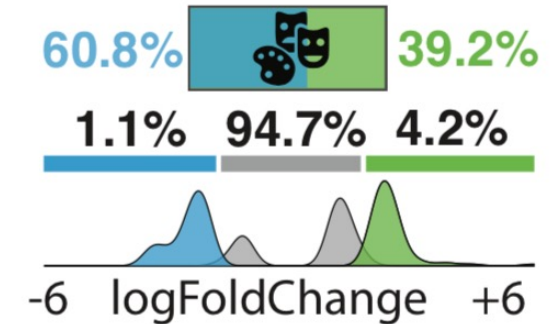
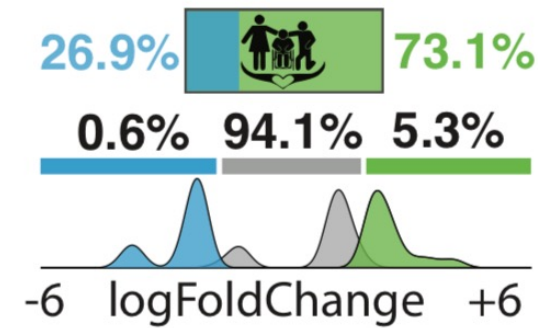
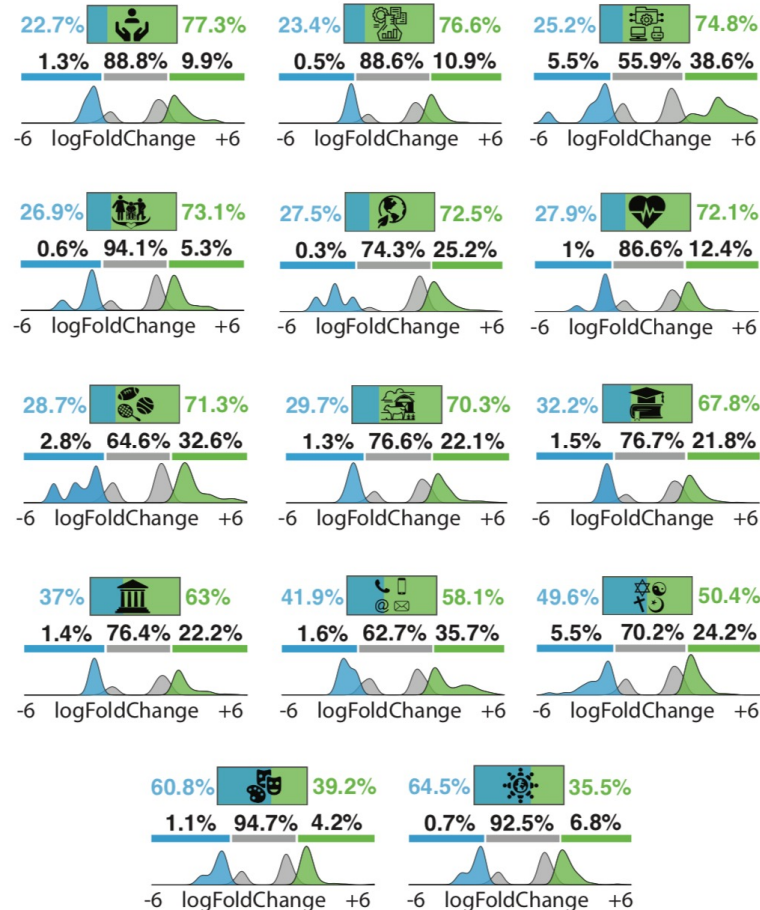
0.2% 98.7% 1.1%

Differential

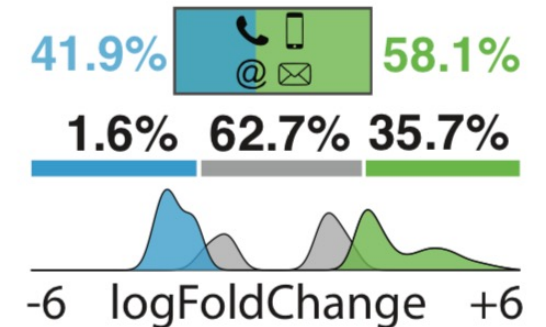
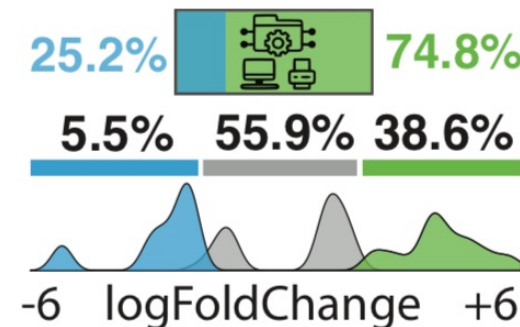


Language Overlap Differs by Type of Activity

High Shared Language

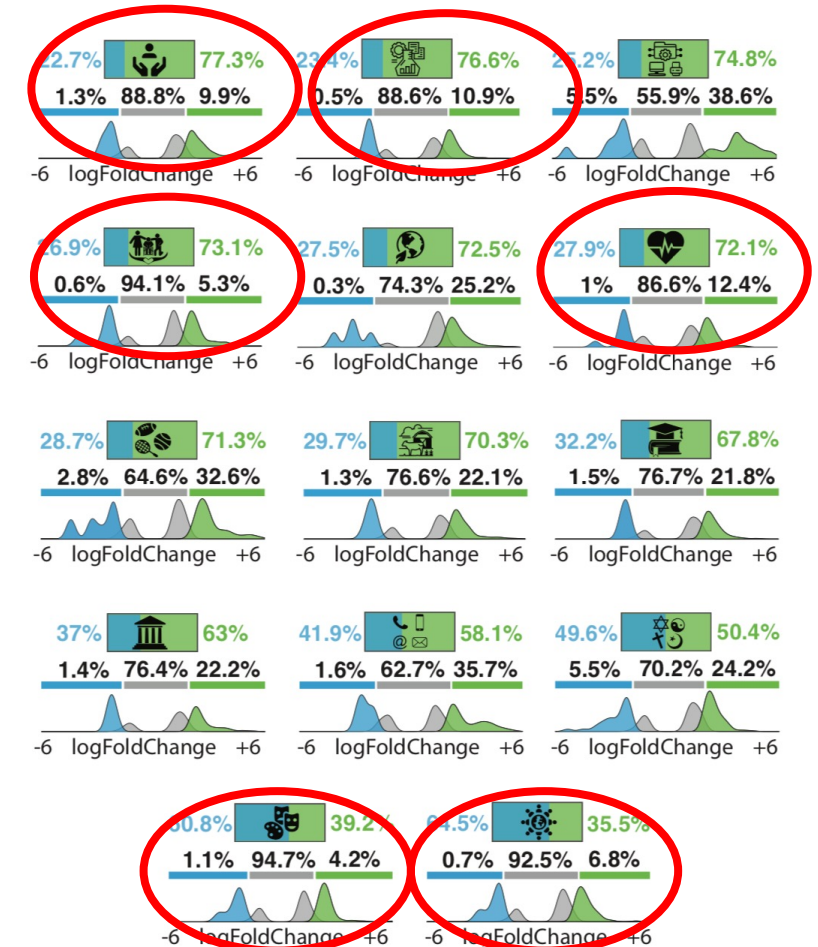
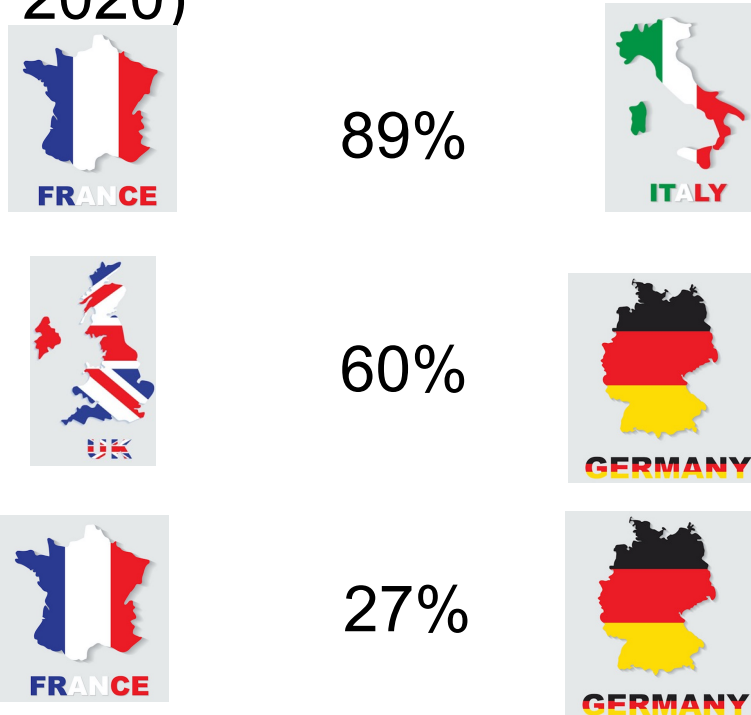


Low Shared Language

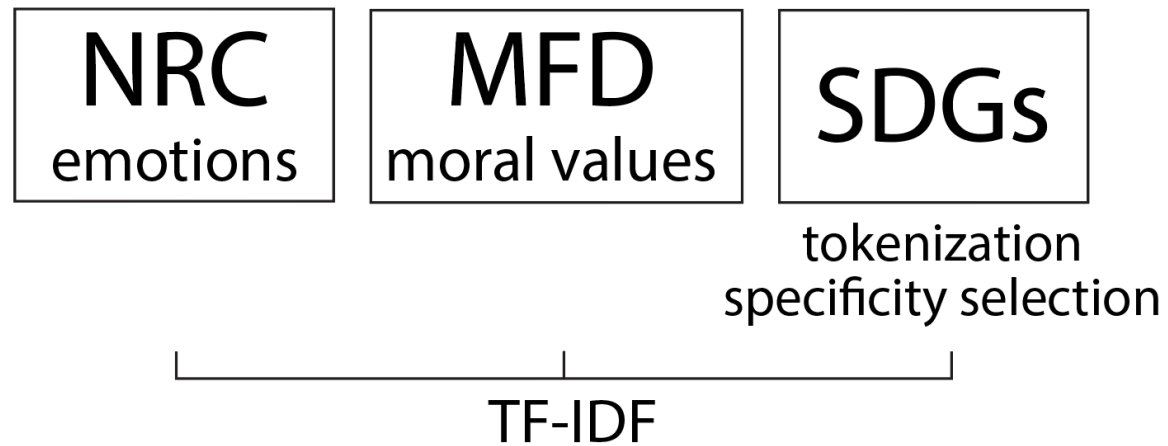


“Related Dialect” Spoken in 6/14 areas of activity

- › Related Dialects = 85% or more words shared across two languages (Eberhard, D. et al, 2020)



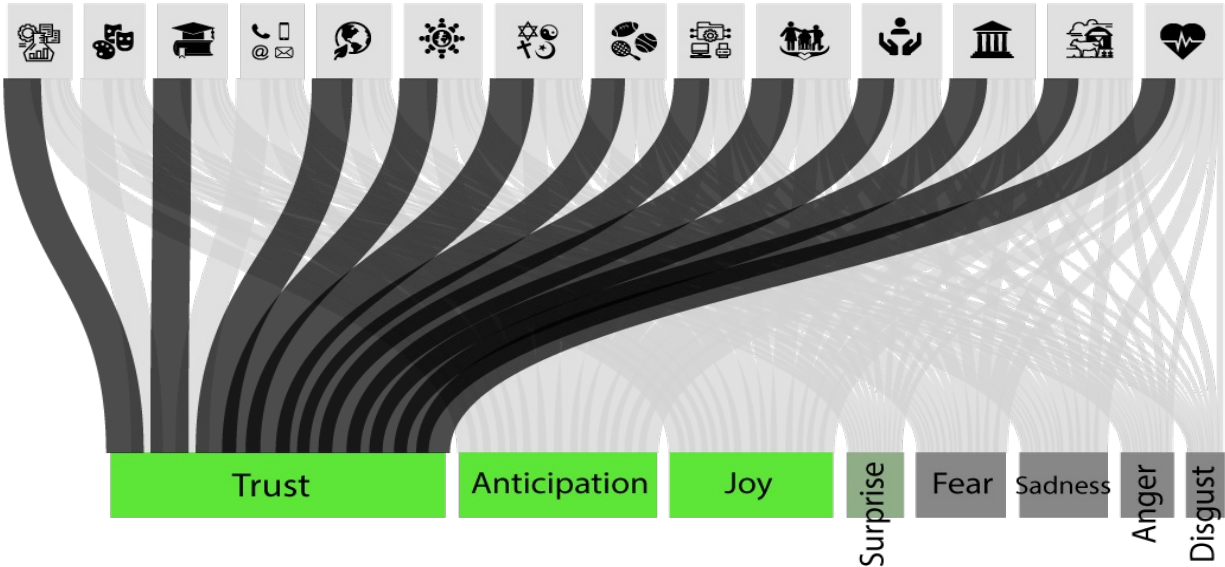
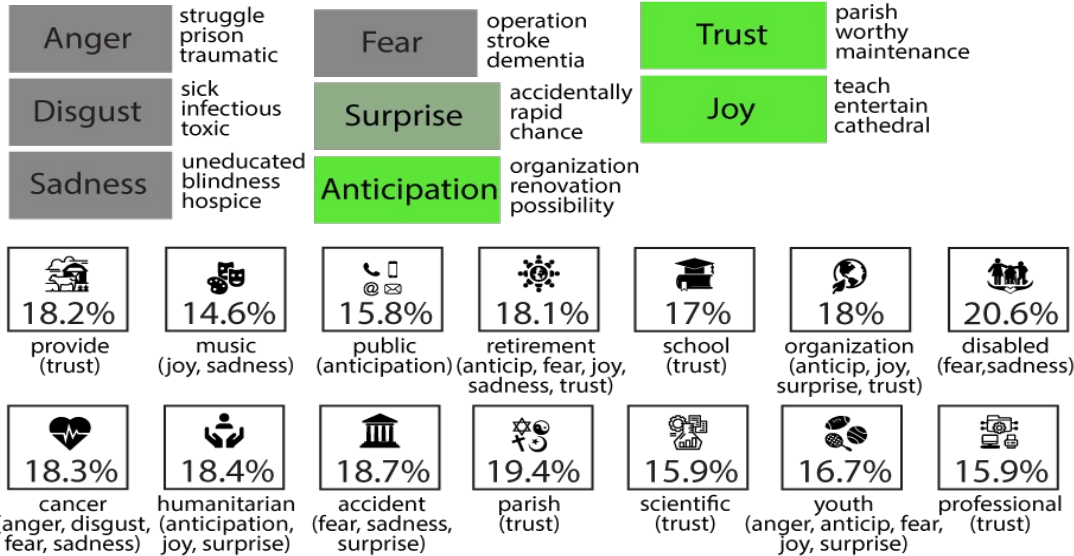
Investigating Motives: “supervised learning”



Defining salient words related to
Emotions, Moral Values and the SDGs.

- › Using these salient words to identify which organizations mention them in their mission statements to infer motives

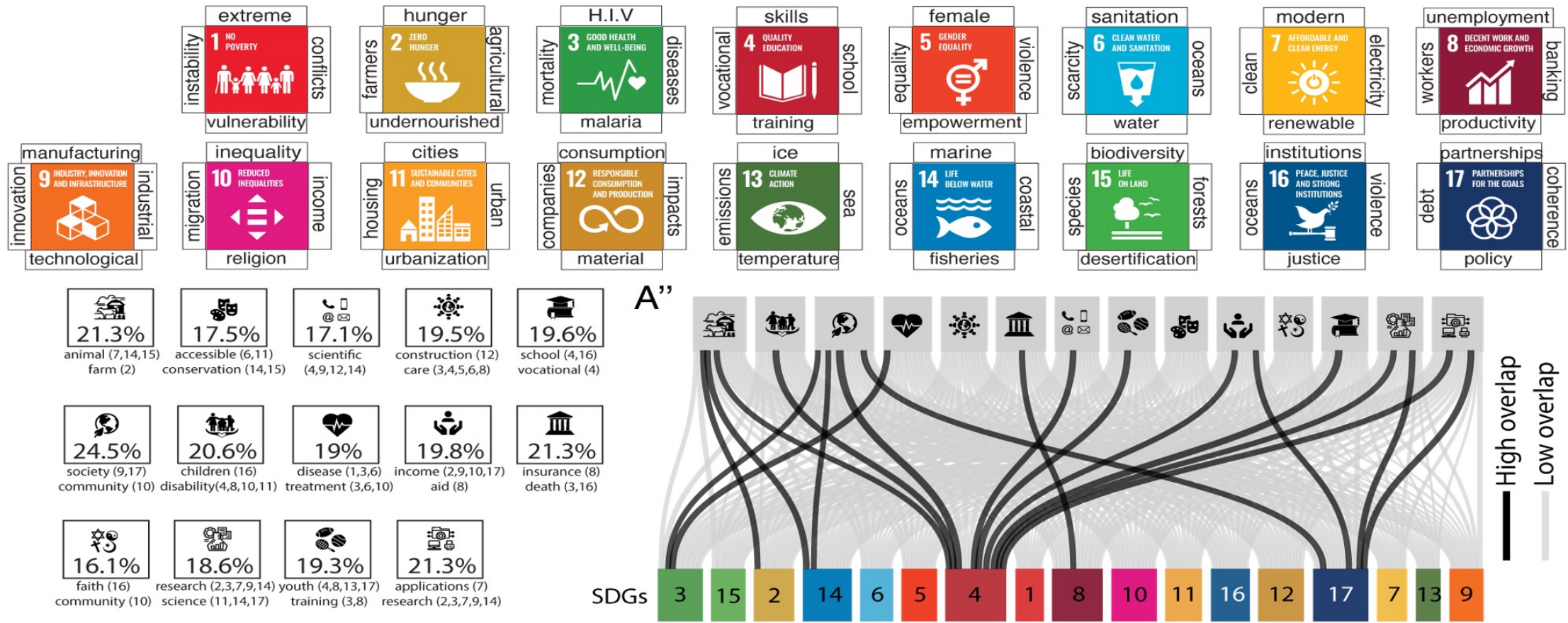
Emotions



The Sankey diagram illustrates the flow of values from 12 icons at the top to 8 categories at the bottom. The categories are Care, Loyalty, Authority, Harm, Fairness, Cheating, Sanctity, and Degradation. The flows show how different values contribute to these categories, with 'Cheating' being a negative category.

Category	Value	Flow Strength (approx.)
Care	Icon 1 (Family)	High
Care	Icon 2 (Handshake)	Medium
Care	Icon 3 (Sun)	Low
Care	Icon 4 (Globe)	Low
Care	Icon 5 (Temple)	Low
Care	Icon 6 (Phone)	Low
Care	Icon 7 (Group)	Low
Care	Icon 8 (Heart)	Low
Care	Icon 9 (Medical)	Low
Care	Icon 10 (People)	Low
Care	Icon 11 (Tools)	Low
Care	Icon 12 (Gears)	Low
Loyalty	Icon 1 (Family)	High
Loyalty	Icon 2 (Handshake)	Medium
Loyalty	Icon 3 (Sun)	Low
Loyalty	Icon 4 (Globe)	Low
Loyalty	Icon 5 (Temple)	Low
Loyalty	Icon 6 (Phone)	Low
Loyalty	Icon 7 (Group)	Low
Loyalty	Icon 8 (Heart)	Low
Loyalty	Icon 9 (Medical)	Low
Loyalty	Icon 10 (People)	Low
Loyalty	Icon 11 (Tools)	Low
Loyalty	Icon 12 (Gears)	Low
Authority	Icon 1 (Family)	High
Authority	Icon 2 (Handshake)	Medium
Authority	Icon 3 (Sun)	Low
Authority	Icon 4 (Globe)	Low
Authority	Icon 5 (Temple)	Low
Authority	Icon 6 (Phone)	Low
Authority	Icon 7 (Group)	Low
Authority	Icon 8 (Heart)	Low
Authority	Icon 9 (Medical)	Low
Authority	Icon 10 (People)	Low
Authority	Icon 11 (Tools)	Low
Authority	Icon 12 (Gears)	Low
Harm	Icon 1 (Family)	High
Harm	Icon 2 (Handshake)	Medium
Harm	Icon 3 (Sun)	Low
Harm	Icon 4 (Globe)	Low
Harm	Icon 5 (Temple)	Low
Harm	Icon 6 (Phone)	Low
Harm	Icon 7 (Group)	Low
Harm	Icon 8 (Heart)	Low
Harm	Icon 9 (Medical)	Low
Harm	Icon 10 (People)	Low
Harm	Icon 11 (Tools)	Low
Harm	Icon 12 (Gears)	Low
Fairness	Icon 1 (Family)	High
Fairness	Icon 2 (Handshake)	Medium
Fairness	Icon 3 (Sun)	Low
Fairness	Icon 4 (Globe)	Low
Fairness	Icon 5 (Temple)	Low
Fairness	Icon 6 (Phone)	Low
Fairness	Icon 7 (Group)	Low
Fairness	Icon 8 (Heart)	Low
Fairness	Icon 9 (Medical)	Low
Fairness	Icon 10 (People)	Low
Fairness	Icon 11 (Tools)	Low
Fairness	Icon 12 (Gears)	Low
Cheating	Icon 1 (Family)	High
Cheating	Icon 2 (Handshake)	Medium
Cheating	Icon 3 (Sun)	Low
Cheating	Icon 4 (Globe)	Low
Cheating	Icon 5 (Temple)	Low
Cheating	Icon 6 (Phone)	Low
Cheating	Icon 7 (Group)	Low
Cheating	Icon 8 (Heart)	Low
Cheating	Icon 9 (Medical)	Low
Cheating	Icon 10 (People)	Low
Cheating	Icon 11 (Tools)	Low
Cheating	Icon 12 (Gears)	Low
Sanctity	Icon 1 (Family)	High
Sanctity	Icon 2 (Handshake)	Medium
Sanctity	Icon 3 (Sun)	Low
Sanctity	Icon 4 (Globe)	Low
Sanctity	Icon 5 (Temple)	Low
Sanctity	Icon 6 (Phone)	Low
Sanctity	Icon 7 (Group)	Low
Sanctity	Icon 8 (Heart)	Low
Sanctity	Icon 9 (Medical)	Low
Sanctity	Icon 10 (People)	Low
Sanctity	Icon 11 (Tools)	Low
Sanctity	Icon 12 (Gears)	Low
Degradation	Icon 1 (Family)	High
Degradation	Icon 2 (Handshake)	Medium
Degradation	Icon 3 (Sun)	Low
Degradation	Icon 4 (Globe)	Low
Degradation	Icon 5 (Temple)	Low
Degradation	Icon 6 (Phone)	Low
Degradation	Icon 7 (Group)	Low
Degradation	Icon 8 (Heart)	Low
Degradation	Icon 9 (Medical)	Low
Degradation	Icon 10 (People)	Low
Degradation	Icon 11 (Tools)	Low
Degradation	Icon 12 (Gears)	Low

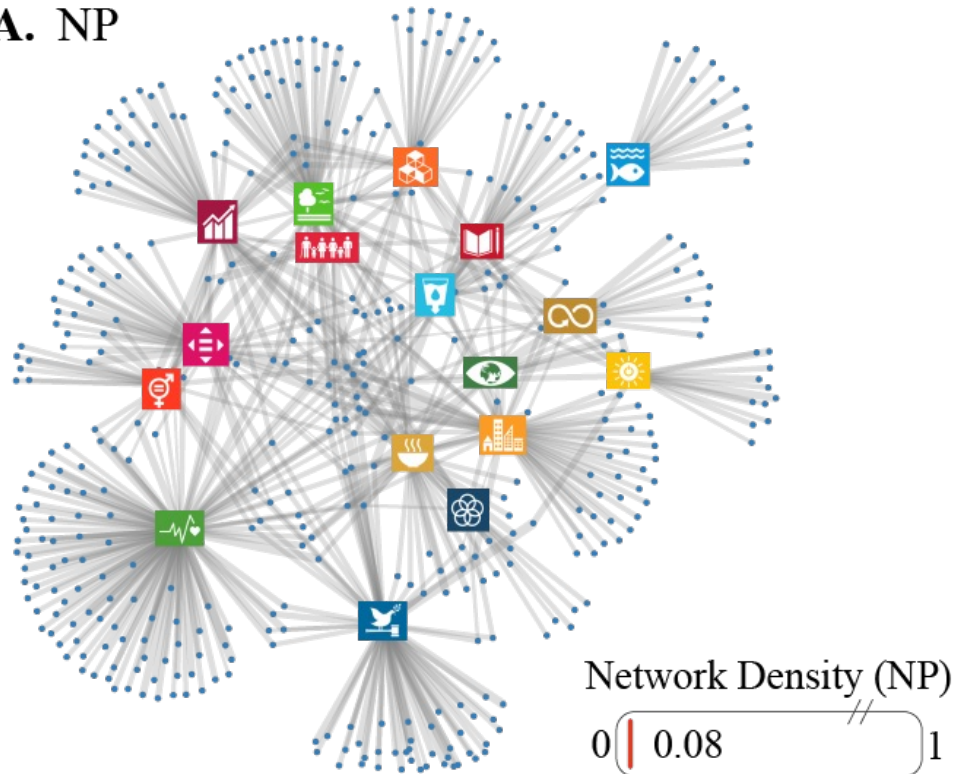
Sustainable Development Goals



Weak collaborations among POs in tackling the SDGs

“SDG Connection-Network based on For-Profit missions”

A. NP

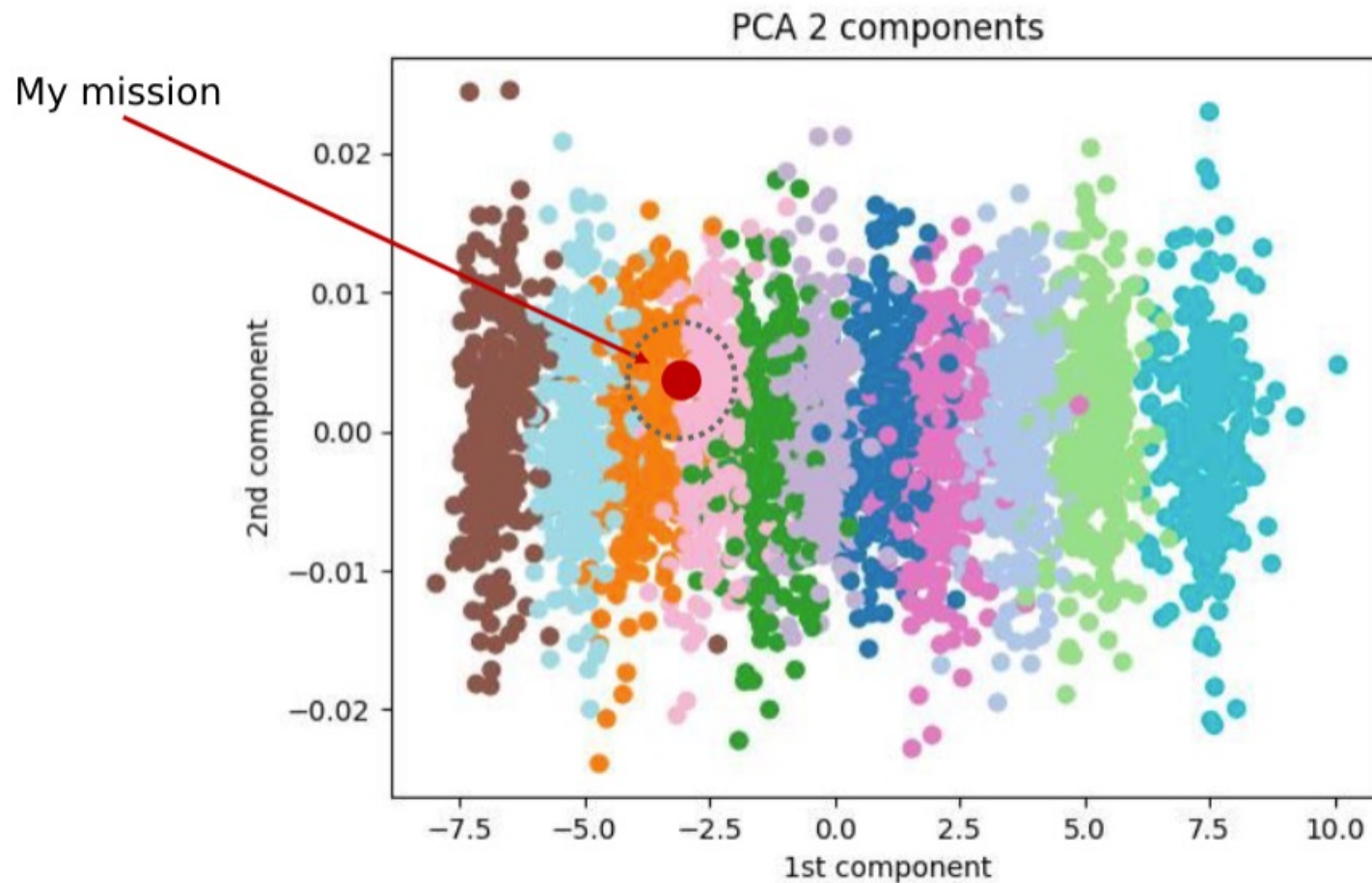


● organisations

— SDG connections (shared words)



From Classification to Flexible SDG-Localization



Conclusions

- › AI can empower philanthropic collaboration by mapping POs:
 - Areas & Types of Activity
 - Geographical Distribution
 - Motivations, emotions & moral values
 - Informing Strategic Thinking to align with SDGs

- › Key Advantages:
 - Can be used to find patterns too hard for humans to detect
 - Open Access, can benefit from inputs from anyone and easily replicable

Thanks for your attention!

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- Hubert Halope
- Maria Cristiana Tudor
- *Nisa Thomas*



**UNIVERSITÉ
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GENEVA CENTRE
FOR PHILANTHROPY

<https://www.unige.ch/BehavioralPhilanthropyLab>

Join us for the 10:45 workshop:
Deep-Dive «Empowering philanthropy with AI and big data»

Fragen und Anregungen?

Die Geschäftsstelle von Swissfundraising steht bei Fragen oder Anliegen immer gerne zur Verfügung.

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