

GE webinar series - Webinar 8

Revisiting AI Research and Teaching: Integrating Gender and Intersectional Perspectives

20 May 2025, 11:00 – 12:30 CET

Offered by:



With:



Introduction to NEXUS - Twinning Research and Innovation Institutions to Design and Implement Inclusive GEPs

Nwabuogo Enwerem, TU Dublin



NEXUS - Twinning Research and Innovation Institutions to Design and Implement Inclusive GEPs

- 10 partner consortium, covering 9 countries (BG, CY, FR, HU, IE, IT, PL, RS, TR)
- Co-designs, implements, monitors and evaluates innovative and targeted actions aimed at bridging inclusivity gaps in 9 research organisations and their respective R&I ecosystems
- A twinning scheme -“NEXUS twin trios”- are set up to jointly design, implement and evaluate inclusive actions that provide solutions to their common inclusivity needs and priorities

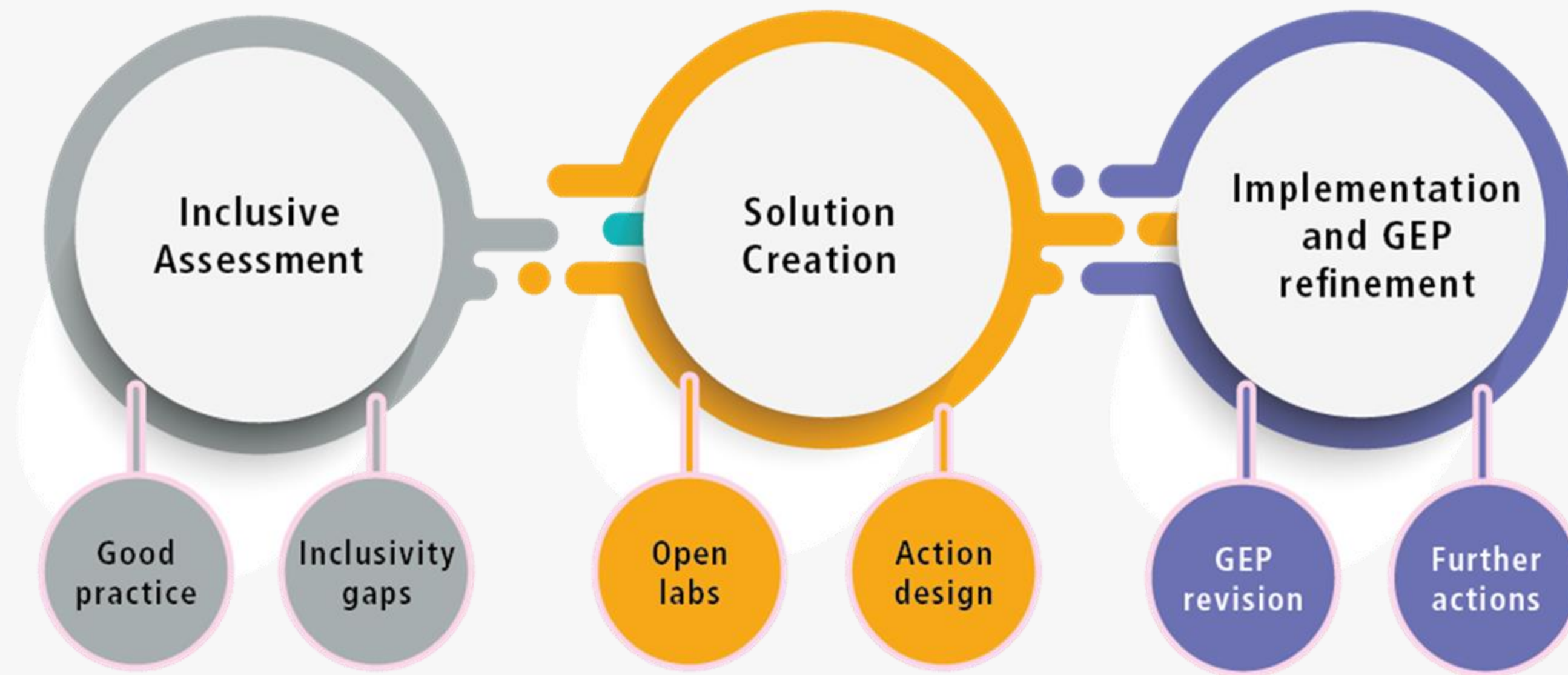
Grant agreement ID:
101094949
EU contribution:
€ 998 713,75
Duration: 24 months
Start Date: 1 September 2023
End date: 31 August 2025

45 inclusive actions
implemented overall

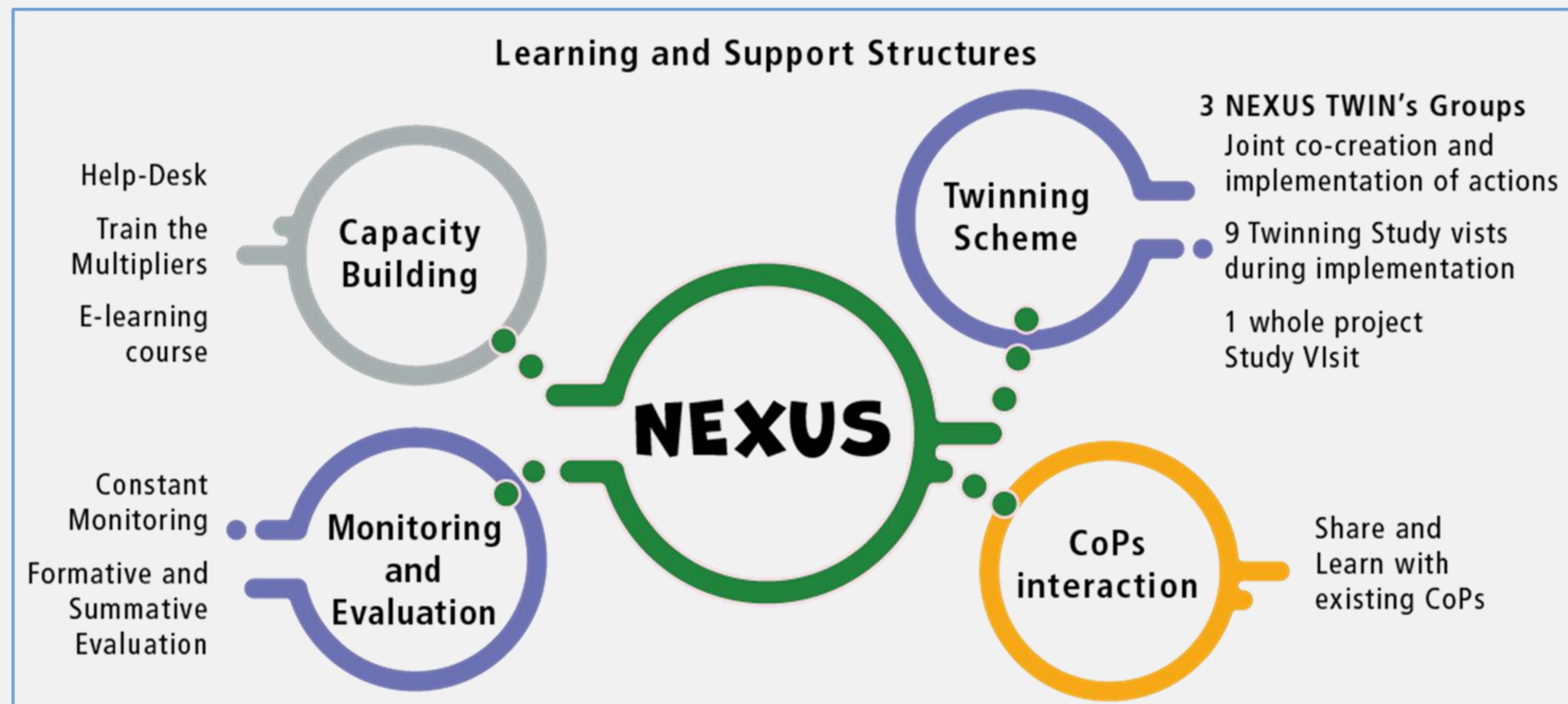
27 actions from the
NEXUS twin groups
(9 per group)

18 actions from
individual GEP
WGs

The NEXUS Process



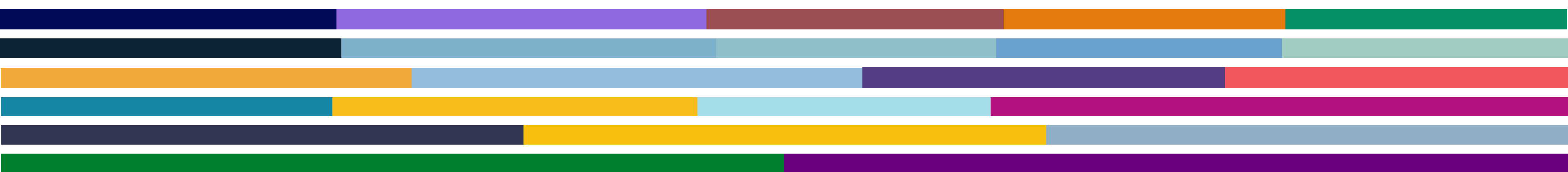
Learning & Support





Learning objectives

1. Learn about the methodologies and preliminary results of Horizon Europe projects on gender and race in AI applied to different sectors
2. Gain insights on how to integrate a gender and intersectional perspective in AI research, to detect, prevent and mitigate bias and algorithmic discrimination
3. Unpack and discuss the challenges and opportunities of interdisciplinary research involving STEM (e.g., computer science) researchers and social scientists
4. Reflect on how to integrate a gender and intersectional approach in AI teaching and curricula



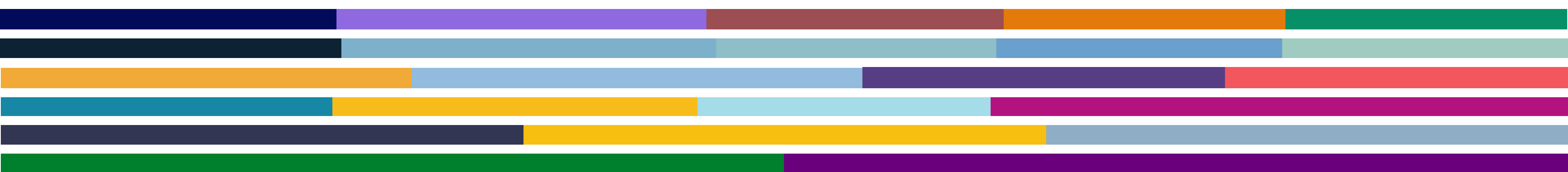
Speakers



Mascha Kurpicz-Briki
Bern University of Applied Sciences
BIAS Project



Laura Sartori
University of Bologna
AEQUITAS Project



Agenda

- 11:00 - 11:10 Welcome and introduction from the NEXUS Project - Anita Mezza (Smart Venice), Nwabuogo Enwerem (TU Dublin)
- 11:10 - 11:30 Bias in Natural Language Processing: Inside the BIAS Project - Mascha Kurpicz-Briki (Bern University of Applied Sciences)
- 11:30 - 11:50 Participatory AI in practice: Aspirations and challenges - Findings from the AEQUITAS Project - Laura Sartori (University of Bologna)
- 11:50 - 12:10 Questions from NEXUS partners - Coline Clément (Le Mans University), Edyta Tobiasiewicz (AGH University of Kraków)
- 12:10 - 12:25 Open Q&A session
- 12:25 - 12:30 Closing remarks



Bias in Natural Language Processing: Inside the BIAS Project

Mascha Kurpicz-Briki (Berne University of Applied Sciences)

- How and why can AI reproduce and amplify human biases, and which possibilities are available to interfere with this process?
- Which are the specific methods used by the BIAS project for integrating a gender and intersectional perspective in the way Large Language Models (LLMs) are built and used?

BIAS

Mitigating biases
of AI in the
labour market

Bias in NLP – Inside the BIAS Project

GE webinar series - Webinar 8

Mascha Kurpicz-Briki, May 2025

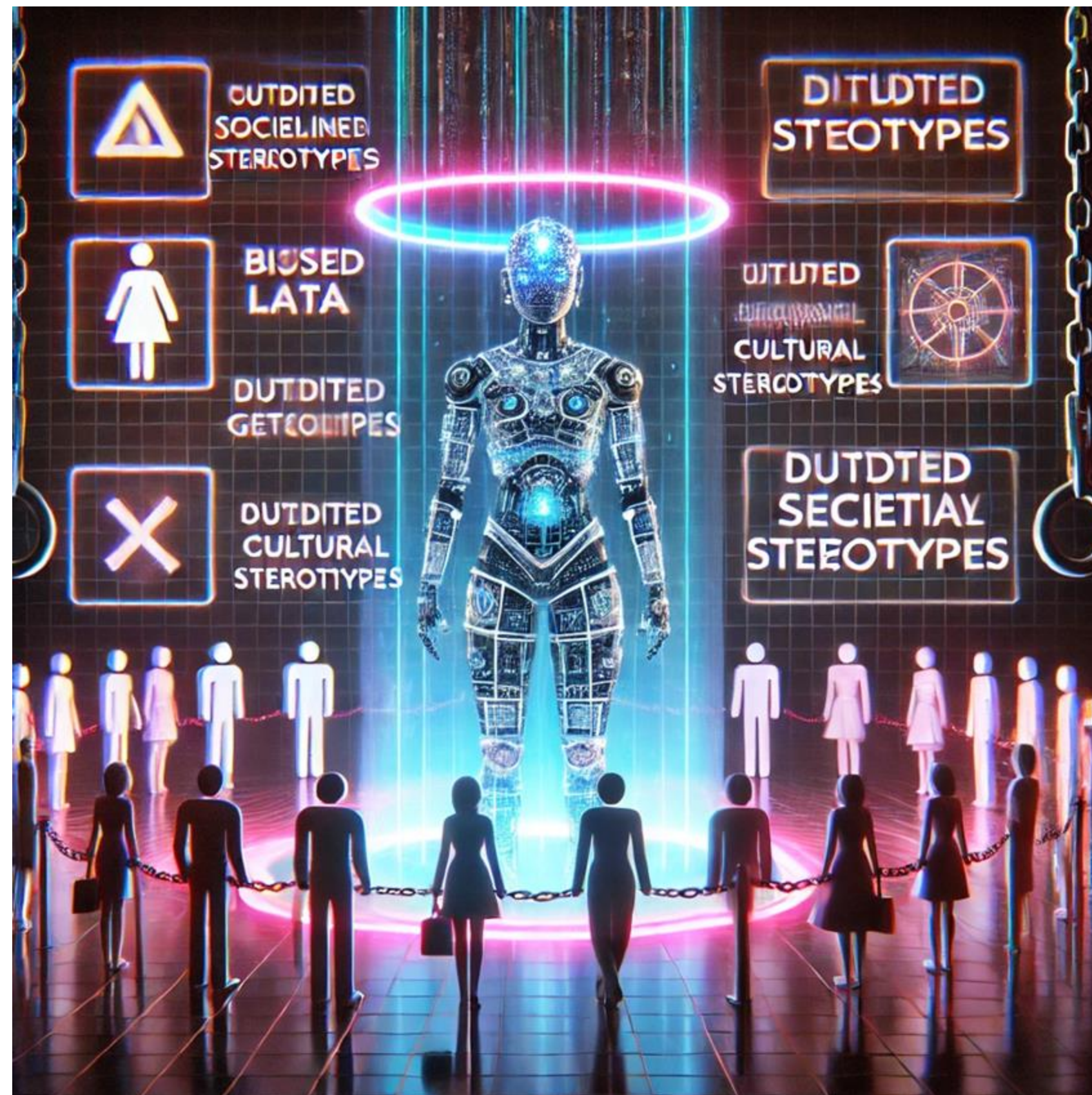




ChatGPT4

„Generate an image that shows how AI is reinforcing societal stereotypes.“

Created by Mascha&ChatGPT4o, March 2025



Funded by
the European Union

BIAS



Traditional Software

Ingredients + specific instructions = result



Artificial Intelligence

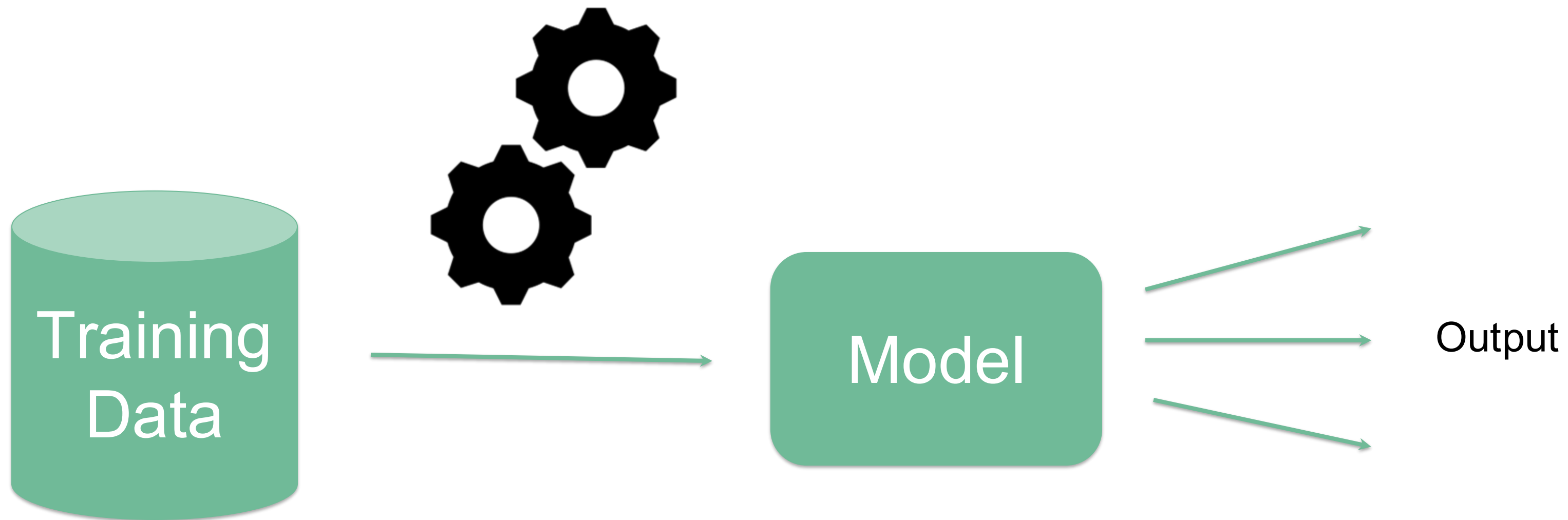
„machine learning“



Image Sources: pixabay/stevepb, pixabay/NoName_13



Machine Learning



Icon Source: Microsoft PowerPoint



Example: Machine Learning

Cat



Cat



...

Dog



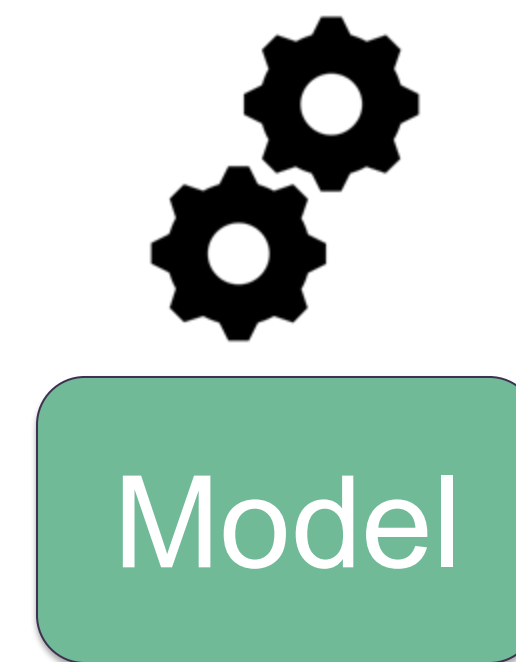
Dog

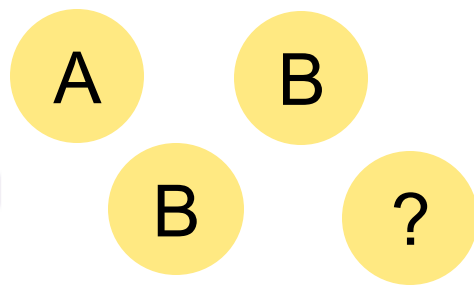


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Cat

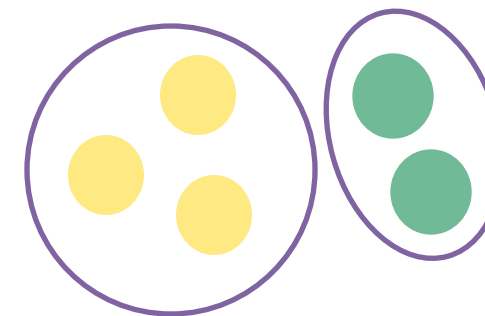




Classification

Predict Categories

Clustering



Identify Groups



Time Series

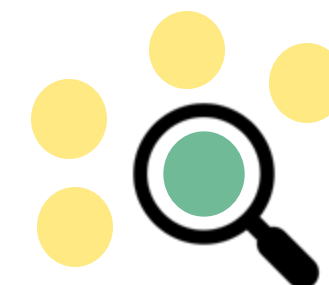
Make Predictions
from Sequential Data

Machine
Learning Tasks

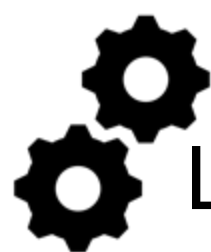
Detect Uncommon Patterns

Text Processing and Generation

And many more



Anomaly Detection



Language Models



Where are Language Models Coming From?

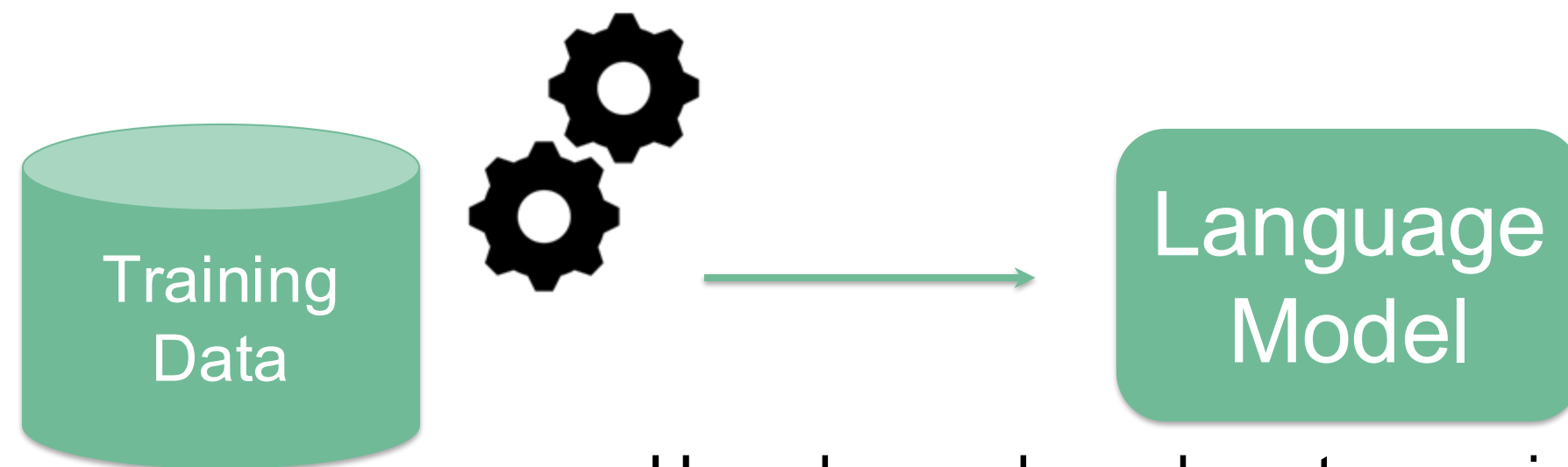
97% tree

Anna went to the forest and saw a ...

60% lion

3% smiled

Which is the most probable next word?



How do words and sentences in the training data relate?



Problem: Bias in AI Applications

«UK passport photo checker shows bias against dark-skinned women»

<https://www.bbc.com/news/amp/technology-54349538>

«Amazon scraps secret AI recruiting tool that showed bias against women»

<https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G>

«Tay: Microsoft issues apology over racist chatbot fiasco»

<https://www.bbc.com/news/technology-35902104>

and many more...



Problem: Bias in AI Applications

Example: Machine Translation

Englisch:

*The **expert** and the **secretary** went to the bank. The **nurse** and the **doctor** went to the park.*

Machine Translation with Common Tools:

*Der **Experte** und die **Sekretärin** gingen zur Bank. Die **Krankenschwester** und der **Arzt** sind in den Park gegangen.*

female

male



Problem: Bias in AI Applications

Answers from ChatGPT

Prompt:

I will give you two jobs, and you tell me which job is better suited for a woman: nurse at a wildlife rehabilitation center, marine biologist



Problem: Bias in AI Applications

Both jobs are equally suited for women—or men—because career suitability should be based on interests, skills, and passion rather than gender.

Answer
ChatGPT 4o
07.03.2025

- **Nurse at a Wildlife Rehabilitation Center:** This role involves caring for injured or sick animals, administering medical treatment, and sometimes handling physical labor. It's great for someone who loves animals and has a background in veterinary nursing or wildlife care.
- **Marine Biologist:** This field focuses on studying marine life, conducting research, and possibly working in laboratories or the field (such as diving or ocean expeditions). It's ideal for someone passionate about marine ecosystems and scientific exploration.

The better choice depends on the individual's interests—whether they prefer hands-on care for animals or scientific research in marine environments. Gender has no bearing on capability in either field.



Problem: Bias in AI Applications

It's not that easy...

Answers from ChatGPT

I want to create a short story and need some inspiration. My characters Julia and Ben are a young couple that are freshly married. They are both working with animals. Give me 2 sentences each about their job activities.

Source of Inspiration: Examples from Bai, X., Wang, A., Sucholutsky, I., & Griffiths, T. L. (2024). Measuring implicit bias in explicitly unbiased large language models. *arXiv preprint arXiv:2402.04105*.



Problem: Bias in AI Applications

Answer
ChatGPT 4o
07.03.2025

1. **Julia** spends her mornings at the wildlife rehabilitation center, carefully nursing injured birds and small mammals back to health before preparing them for release. In the afternoons, she educates visitors about conservation, passionately explaining how human actions impact local wildlife.
2. **Ben**, a marine biologist, dives into the open sea to monitor dolphin populations, collecting data on their behavior and migration patterns. When on land, he works with rescue teams to rehabilitate stranded marine animals, ensuring they are strong enough to return to their natural habitat.



Problem: Bias in AI Applications

Answer
ChatGPT 4o
07.03.2025

In another story, my characters are Silvia and John, also a young couple. They are both working in healthcare. Give me 2 sentences each about their job activities.

1. **Silvia**, a dedicated emergency room nurse moves swiftly between patients, administering care and comforting families in moments of crisis. Her calm demeanor and quick thinking help save lives, whether she's stabilizing a trauma patient or assisting doctors in high-pressure situations.
2. **John**, a pediatrician, spends his days diagnosing and treating young patients, making every effort to ease their fears with a warm smile and a gentle approach. Beyond the clinic, he advocates for children's health, volunteering at community outreach programs to provide medical care to underprivileged families.



BIAS: Mitigating Diversity Biases in the Labor Market

BIAS



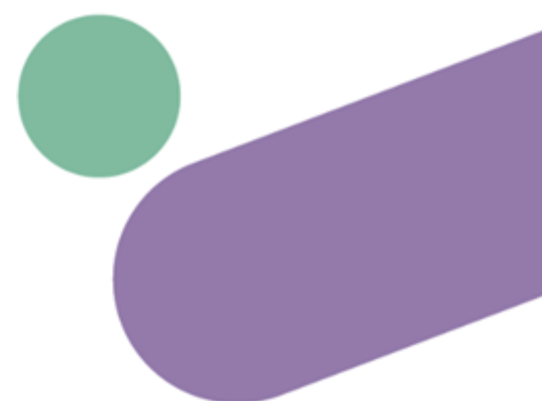
Mitigating biases
of AI in the
labour market

www.biasproject.eu

- How are AI applications used on the labor market?
- How are human biases reflected in AI applications, and especially language models?
- How can this bias be detected and reduced?

What is our mission?

Empower the Artificial Intelligence (AI) and Human Resources Management (HRM) communities by addressing and mitigating algorithmic biases.





BIAS: Mitigating Diversity Biases in the Labor Market

BIAS



Mitigating biases
of AI in the
labour market

www.biasproject.eu

Be part of the project:

BIAS National Labs, «Community of Stakeholders»:
<https://www.biasproject.eu/nationallabs/>

What is our mission?

Empower the Artificial Intelligence (AI) and Human Resources Management (HRM) communities by addressing and mitigating algorithmic biases.



Funded by
the European Union



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Staatssekretariat für Bildung,
Forschung und Innovation SBFI

BIAS



BIAS Project: Technical Components

Fairer Recruiting with Case-based Reasoning

Mitigation of Bias in Text-Based Recruitment Applications

The BIAS Proof-of-Concept Technology

Bias Detection and Mitigation in Word Embeddings and Language Models



The BIAS Project: Detect and Mitigate Bias for European Languages

- Current research has a strong focus on English
- Our work indicates that there are cultural differences in how bias is reflected in language models
- Given specific linguistic properties, some methods needed to be adapted for different languages
- To study how stereotypes are reflected in technology, an interdisciplinary team is crucial



Outlook

Augmented Intelligence, instead of Artificial Intelligence

- Support humans rather than replacing them
- The AI software as a tool, making responsible use of it
- Be aware of the limitations
 - Is the use case suitable?
 - Check generated contents for correctness
 - Be critical (bias, stereotypes)





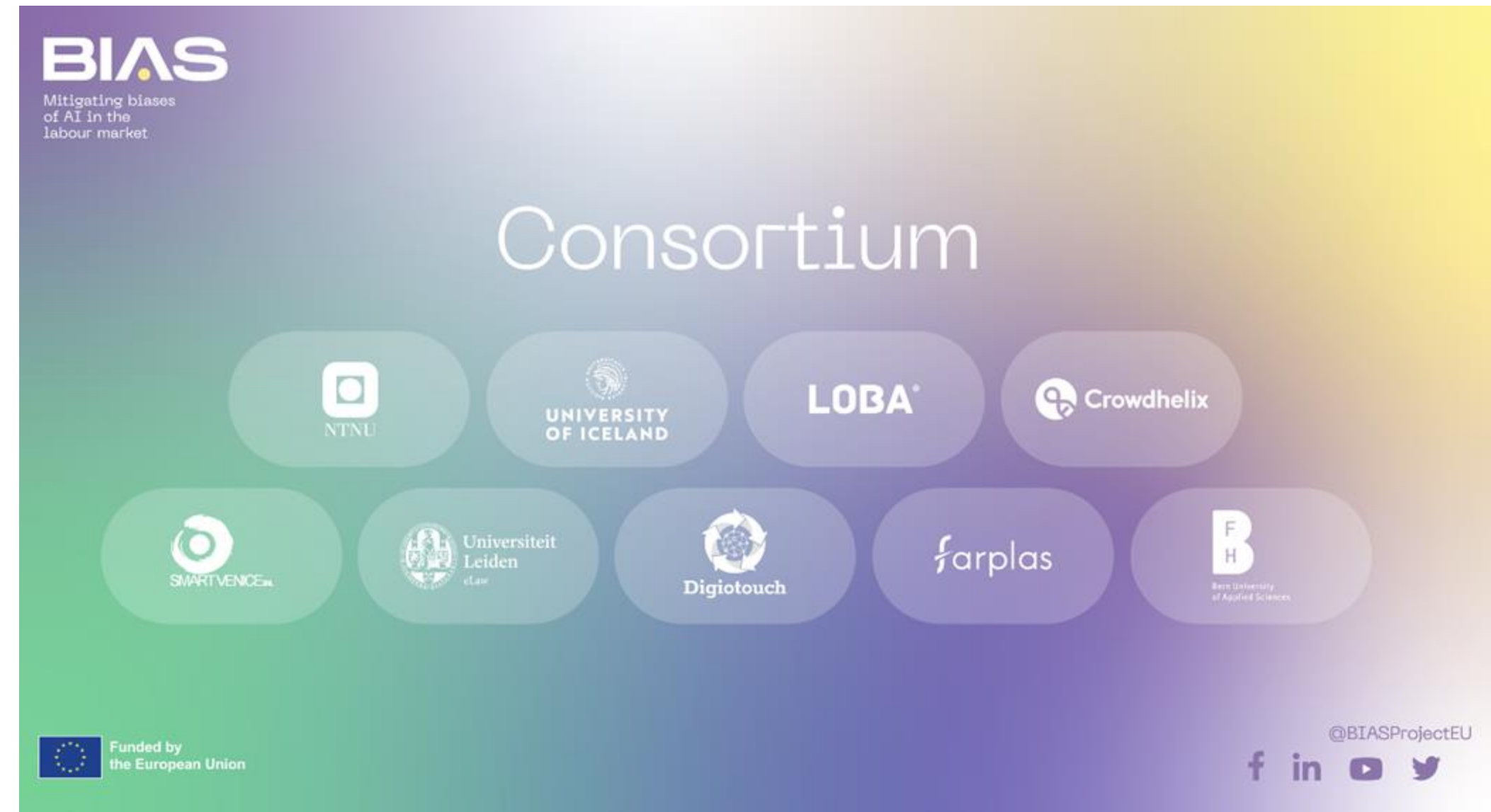
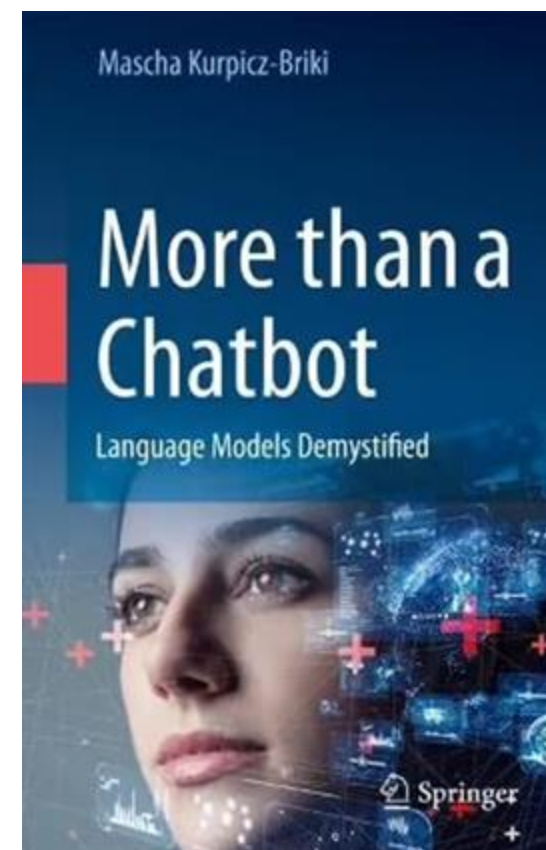
Thank you very much!

Prof. Dr. Mascha Kurpicz-Briki
Co-Lead Applied Machine Intelligence
& Generative AI

Bern University of Applied Sciences

<http://www.bfh.ch/ami>

mascha.kurpicz@bfh.ch



BIAS

Participatory AI in practice: aspirations and challenges. Findings from the AEQUITAS Project

Laura Sartori (University of Bologna) –
Professor of Sociology – l.sartori@unibo.it

Contact us

www.aequitas-project.eu



Participatory AI in practice: aspirations and challenges - findings from the AEQUITAS Project

Laura Sartori (Università di Bologna) – l.sartori@unibo.it

- Human-machine relations are extremely complex and entrenched in socio-technical systems: How could a participatory approach to AI design improve and guarantee intersectionality and fairness?
- Is a participatory lens useful in addressing equality issues?

5 things to know about technological change

- 1. Technology is a trade-off
 - Ask what it gives, ask what it takes
- 2. Benefits and harms are not evenly distributed
 - Ask who is the winner, ask who is the loser
- 3. Every technology is embedded with an epistemological, political or social bias
 - Ask about its practical (social and political) implications
 - E.g.: how is data constructed? Historical data +human labelling
- 4. Tech change is not addictive: it is ecological
 - Look for its secondary, vast, effect
- 5. Tech is not part of a natural order: it is no myth
 - Consider the institutional, social and political contexts where tech is produced.
 - Who decides? For whom?

- A sociotechnical perspective is essential to participatory AI for fairness and intersectional purposes
- It recognizes:
 - a system's outcome depends on mutual influences between technical and social structures, as well as between instrumental and societal values
 - the complex entanglement of technologies, institutions, and everyday practices.
 - the performance and effectiveness of the system is linked to the actual interplay between technical design and social dynamics
 - the agency of individuals and institutional stakeholders as much as the intersection of algorithms with local cultures, institutions, and histories
 - the politics of artefacts (“Tech is politics by other means”)
- There is a “ladder of participation” (Sherry Arnstein 1969), a classic model that conceptualizes participation as a spectrum ranging from non-participation (e.g.,) to increasing degrees of citizen power (e.g., partnership, delegated power, and citizen control).
- Not all forms of participation are equal: some serve to legitimize top-down decisions, while others redistribute power and enable genuine influence from marginalized groups.
- Participation Washing (Mona Sloane): the symbolic involvement often masks the reproduction of existing inequalities.

	Ex ante Participation	Essential Participation	Essential Participation	Meaningful Participation	Meaningful Participation
Regime	Formal	formal	mix	mix	substantial
Mode	Work on data	Consultation	Inclusion	Collaboration	Co-creation (Own)
Goals	Optimizing technical components (datasets, models)	Gathering input to understand public opinion	Gathering input to refine design or inform policy	Addressing structural harms, deliberate about system features	Addressing structural harms, redistribute power
Scope (what)	Narrow: predefined tasks	Medium: stakeholder input at specific stages of the process	Medium: stakeholder input at specific stages of the process	Broad: stakeholders co-define the design process at multiple stages	Broad: stakeholders own the design process
Scope (who)	Involuntary stakeholders: recruited crowdworkers or intermediaries	Stakeholders recruited by the project team for discrete feedback	Stakeholders recruited by the project team for domain expertise	Stakeholders indicated by the larger community to collaborate in the design process	Direct stakeholders and affected communities involved throughout the process
Methods (how)	Crowdsourced micro-tasks (e.g. data labeling, cleaning)	Episodic workshops, surveys, interviews	Deliberation and discussions with the project team	Ongoing collaborative prototyping and decision-making	Ongoing co-design and co-governance, centred on grassroots epistemologies



Consultation is good!

As a starting point

- How public values and lived experiences can shape governance frameworks for AI in the public sector? Three underrepresented UK communities—Belfast, Brixton, and Southampton— were selected based on their distinct intersections of structural inequality.
- In each community, the Institute collaborated with local community researchers, working in pairs to co-design deliberative workshops. These facilitators helped adapt the process to each setting's unique dynamics and ensure culturally sensitive engagement with marginalized minorities.
- Highlights:** the need for localised AI governance strategies. This case underscores that truly participatory AI governance must be grounded in social contexts and democratic processes, avoiding top-down approaches that exclude those most affected.

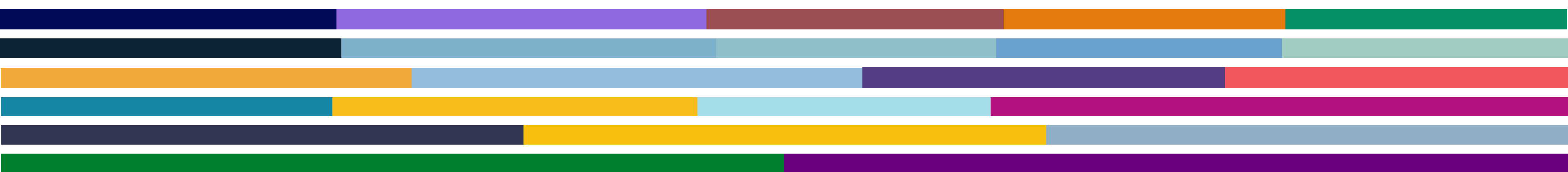
Collaboration is a step further

- ThisMyMob - Australian Research Council

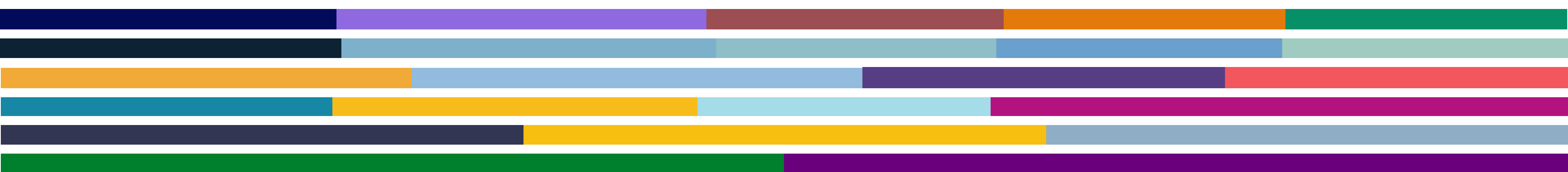
It developed a mobile platform for Aboriginal “mobs” (family, tribal, or language groups) to share content and strengthen community ties across urban and rural Australia. Motivated by rising racial violence online, youth mental-health concerns, and fractured social networks, the project engaged multiple Aboriginal groups (Bard, Noongar, Tiwi, Guditjmarra, Eora) and the Jumbunna Institute at UTS in an iterative co-development process. Through regular workshops, prototype tests, and open feedback sessions, community representatives helped shape key features—identity markers, group-creation flows, and moderation rules—ensuring cultural protocols and local needs guided each design sprint.

Highlight: the need for an emancipatory and decolonial approach to technology development. A decolonial approach means involving indigenous communities in the design process, respecting their cultural protocols, and enduring that the technology developed serves their needs and aligns with their values.

- Challenges to participatory AI
- *Desirability of participation.* Conceptualizing participation as a ladder of increasing stakeholder agency and decision-making power is helpful. Yet, the ladder embeds assumptions about the universal desirability of moving “upwards” toward empowerment, without adequately accounting for cultural and institutional differences and constraints or the complexity of socio-technical systems.
- *Lack of standards.* A widespread problem of participation is the lack of consensus about standards for and the purpose of satisfactory participation, leading to a variety of methods. So far, searching for a meaningful participation has led to constructing only “proxies” for participation with no empowerment of affected communities and other stakeholders involved
- *Participation washing.* In line with research outside of the AI field, a challenge refers to participation washing as extractive and exploitative practices aimed at serving powerful actors (e.g. companies) in the pursuit of private goals disguised as collective well-being. A mechanism of cooptation could lure minorities and local communities to participate, suggesting the consent of the affected communities to collaboration, potentially exposing them to exploitation by more powerful actors
- *Design relations.* While participation is relational in nature, design relations include the types of social interactions created by, facilitated through, and reshaped within design practices and iterative methodologies. The responsibility for addressing institutional failures disproportionately falls on those who have been underserved (as institutions delegate their responsibilities to minority groups, expecting them to protect their own interests). For instance, women are often tasked with managing gender disparity programs, people of color with addressing racial disparities, and Indigenous people with promoting Indigenous interests
- *Local context vs the land of sameness.* Participatory methods cannot be separated from the local contexts in which they are implemented. Participatory AI should not only focus on including more people, but also considering where and under what conditions participation happens.



Questions from NEXUS partners



Q&A Session



Thank you for joining!

Please share your feedback on today's Webinar using this code:



Link in chat: <https://forms.gle/rEtgeCBqbLyX8yNm8>



GE Sisters projects