

AI4Media Results in Brief: **Interdisciplinarity in AI research**

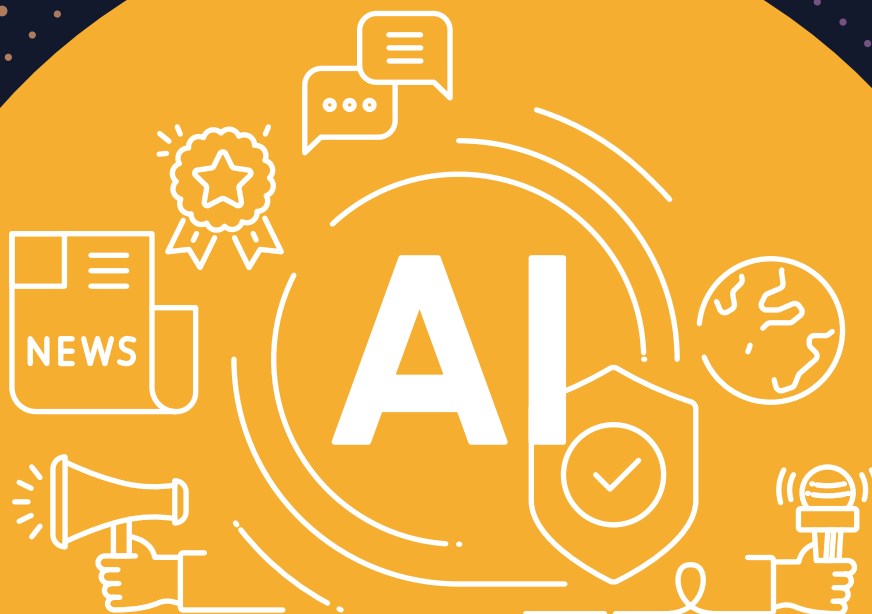
Authors:

Participants included members from the European Networks of Excellence Centres in AI and Robotics (AI NoEs). The AI NoEs include the following projects: VISION, AI4Media, ELISE, HumanE-AI-Net, TAILOR, ELSA, euROBIN, ELIAS, dAIEDGE, ENFIELD.

Insights from the "Navigating Interdisciplinarity" workshop at the 4th AI Community Workshop 2024

During the 4th AI Community Workshop 2024 in Thessaloniki on June 26, AI4Media partners organised a workshop on interdisciplinarity.

The event celebrated four years of building excellence in AI research and foresighted the impact of the European Networks of Excellence Centres in AI and Robotics (AI NoEs).



The workshop was organised and facilitated by the Netherland Institute for Sound & Vision (NISV), the University of Amsterdam (UvA) and KU Leuven Centre for IT & IP Law (KUL CiTiP). It discussed the essential role of interdisciplinarity in conducting responsible AI research, provided a forum for sharing ideas and good practices.

The workshop investigated the essential role of interdisciplinarity in conducting responsible AI research. From a multidisciplinary perspective, the workshop aimed to gather good practices and identify steps to enhance interdisciplinarity in AI research.

The workshop brought together many different disciplines with both legal, social, computer science and practitioners' perspectives. It underlined the need to push for more interdisciplinarity in general but even more when it comes to AI highlighting that the lack of such an approach can hinder the development of societally beneficial outcomes.

Participants included members from European AI Networks of Excellence Centres in AI and Robotics (AI NoE).



The insights from the workshop will also be included in the final Policy Recommendations produced by the **AI4Media project**.

General takeaways



Despite ongoing discussions on responsible AI often focusing on technological aspects, AI is as much about human interactions as it is about technology. This was one of the core takeaways from the workshop, where the panelists and participants highlighted how real-life problems require an interdisciplinary approach because otherwise, there is a risk to miss the bigger picture.

While interdisciplinarity is essential for AI research it seems only superficially achieved (“used as a buzzword”) or remains scarce due to a lack of common language and methodologies. During the initial panel at the workshop, composed of Natali Helberger, Peggy Valcke and Patrick Aichroth, they highlighted three key conditions for interdisciplinarity.



1

First, it is necessary to have a clear framework for interdisciplinarity in AI research that sets out a structure and methodologies for the work.



2

Second, it was also noted that achieving interdisciplinarity requires time, patience, a common understanding, and a willingness to collaborate. For this to be realised there is a need to support a cultural change in how we do research that can support and acknowledge the efforts it takes to work in interdisciplinary projects.



3

Third, it was seen as important to highlight the benefits and successes of interdisciplinarity as part of supporting this cultural change and promoting the value of truly interdisciplinary work both within projects and beyond.

Recommendations



Based on the workshop, we have distilled several recommendations targeted at three different stakeholders; namely funders, researchers and project managers. The aim of these recommendations is to provide guidance on how to support the development of interdisciplinary projects.



Funders



Researchers



Project managers

Recommendations for funders



For a shift towards greater interdisciplinarity to occur, funders need to create incentives, and those in power must set the change in motion.

Defining Interdisciplinarity

Establishing clear definitions, requirements, and criteria for achieving interdisciplinarity in research projects is necessary. Additionally, supporting interdisciplinarity itself as a research subject in future calls should be explored.

Developing framework and methodologies

Particularly developing methodologies or processes in technology or artificial intelligence will be a key enabler.

Setting the objectives for interdisciplinarity

Various considerations come into play when involving interdisciplinary partners from academia, civil society, research centres, and the private sector, across many disciplines. Specific objectives and goals for interdisciplinarity in relation to project calls or programs should be defined as well as why interdisciplinarity is necessary and how it could be effectively achieved.

Including interdisciplinarity in calls and research programme

Interdisciplinarity and its expected outputs should be explicitly included in the call description, along with relevant evaluation criteria and readiness level pointers. Making interdisciplinarity mandatory in funding calls could help to set up an EU research vision for technology development. The calls and research programmes should require projects to set their interdisciplinarity plans and methodologies in the proposal.

Requiring an interdisciplinarity officer in projects

Calls and research programs could require that projects have an 'interdisciplinary officer' who can help guide the work and make relevant interventions throughout the project. The officer would facilitate interdisciplinarity, suggest methodologies, processes, ensure that they are followed, suggest improvements, collaborations, and so forth.

Recommendations for funders



Designing interdisciplinary friendly calls or research programmes

More flexibility for these interdisciplinarity projects should be granted. Interdisciplinarity research is more iterative while rigid Working Packages (WP), Key Performance Indicators (KPIs), and project milestones lead to siloed projects rather than truly interdisciplinary ones.

Interdisciplinary projects require patience, flexibility and agile, iterative work processes. Projects rarely proceed exactly as described in the grant agreement; additional collaboration, research trajectories, or outputs often develop as the project progresses. In current calls, failure is not an option, but exploring interdisciplinarity necessitates time and the possibility of failure.

Clearly identifying evaluation criteria

Regarding the evaluation, how and by whom the interdisciplinarity requirements of the call will be assessed should be clarified. It is necessary to investigate how interdisciplinarity can be best assessed: by interdisciplinary teams of reviewers or reviewers with specific skills in interdisciplinary collaboration, processes and methodologies.

Adopt incentives for interdisciplinarity

A culture of acknowledgement both within the projects and beyond should be created around interdisciplinarity achievements. Dedicating a specific part of research funding for interdisciplinarity projects could trigger more proposals. Such ambitious projects should be rewarded through call design and proposal evaluation.

Such incentives could also include awards, success stories and specific funding schemes to show the benefits of interdisciplinarity. Such incentives could enable a culture of leading by example and inspire new research projects. Showcasing the value of working on interdisciplinary projects could indeed help people take the first step and put in the extra effort to find common ground and work together.

Recommendations for researchers



Leading by example

Open mindset and curiosity of the project's leadership/coordination team for interdisciplinarity are key to lead by example. They will trigger positive change towards embracing interdisciplinarity by default.

Bottom-up approach to interdisciplinary and grassroots initiatives within the projects' tasks should be welcomed by the project's management.

Setting common goal for projects

A clearly defined mission and collective vision of what the project is about and what it wants to achieve should act as a leading star. Too often individual research goals override the collective aim of the project. Stay focused.

Leaving no one behind

Using conversational models and guiding techniques can ensure that all consortium members are listened to and have an equal voice.

There should be no 'power play' between the disciplines. Practical methods like deep democracy allow for alternative voices and underrepresented disciplines to be heard, explored, and be part of the decision-making process.

Ensuring inclusive communication in its content and format

Inclusive communication between team members should provide insights and oversight into what everyone is doing. To ensure equal voice, the agreed way of documenting meetings and discussions should allow team members to keep track of what other teams are working on. An oversight, and a helicopter view, by the coordination team could help avoid creating silos between Work Packages. Not only what is said is important but also how.

Reach an agreement on the common set of behavioral rules on how to interact. This would allow the creation of a safe environment in which everyone is respected and invited to ask questions especially when one does not grasp what the other teams are doing. Think about common activities, and trainings on how to communicate, including with the help of meeting facilitators.

Recommendations for researchers



Investing time into common understanding and alignment

Investing time and effort into understanding what all members representing different perspectives mean should be a building block of the interdisciplinarity journey. Agreeing on a glossary of terms, or having shared definitions of key concepts would help. A practical way of achieving common understanding is breaking down concepts - using techniques such as shape language or abstraction to communicate meaning based on shapes everyone is familiar with, instead of normative text could help solve the inherent ambiguity of natural language and being 'lost in translation'. Investing time and effort to get to know each other, learning about each other's expertise, gaining trust, and building a common culture of values and goals as a team is essential.

'Permission to fail'

Researchers shouldn't be afraid of experimenting and collaborating outside of their own disciplines. Investing in early experiments, piloting and having 'permission to fail' approach should be accepted. Trying is the only way to see what works and what doesn't.

Building an interdisciplinarity and inclusive culture

An agreed framework - a code of conduct - should be established on core common values that the consortium as such and all its members are following. Practically, such agreement could be reached on not participating in "manels" ("All-Male Panel") or panels with no input from or consideration about other disciplines. The value-driven agreement would again contribute to a common vision of the project.

Adopting common tools

How the consortium will work together is important to know before the project starts. Having a carefully created set of tools (instruments for community building) that is accepted by all members.

Accepting that interdisciplinarity takes time

No matter the AI used, certain aspects are unavoidable: interdisciplinarity requires time and effort. Taking the necessary time, effort, and generous budgetary needs into account is essential, as it will pay off.



Recommendations

for project managers & R&D staff



Project Manager & R&D

Creating joint and interdisciplinary PhD positions

Updating assessment of researcher career trajectories

Interdisciplinarity value is not yet widely reflected in the research career assessment. For instance, PhD are still very much valued through publications in mono-disciplines.

Creating interdisciplinary educational initiatives

Curriculum could be created to help people understand the value of interdisciplinarity and give them concrete tools to work in interdisciplinary teams. Any material or training session or any other initiative could also help raise awareness and create cultural change.

Setting interdisciplinarity experience as one of hiring criteria

Criteria for hiring in specific committees, positions, journals.

Creating better dissemination opportunities

It will enable the dissemination of research without having to wait for it to be peer-reviewed, but without risking rejection as a result of having been published.

Organising interdisciplinary conferences/events

Creating awards that celebrate interdisciplinary work

Supporting the development of new interdisciplinary journals

These new journals will celebrate (rather than criticise) work that cites literature outside one's own field.

Notes on the methodology



The workshop was divided into three parts that are outlined below:

- 1. Interdisciplinary Panel Discussion:** First participants attended a panel discussion investigating the importance of interdisciplinarity for doing research on responsible AI. Johan Oomen, Natali Helberger, Peggy Valcke and Patrick Aichroth respectively shared their insights.
- 2. Practical Group Exercise:** Second, Participants were divided into three groups and engaged in a practical exercise, reflecting on three following questions represented on different boards:
 - Lessons learned: What it takes to lead an interdisciplinary project
 - How to evaluate and reward interdisciplinarity
 - Lessons for program officers and funders on enabling and facilitating interdisciplinarity

Participants rotated every 12 minutes, sharing their insights, recommendations and opinions using post-it notes. Each board was managed by a facilitator.

- 3. Summary takeaways:** Thirdly, facilitators summarised the key takeaways from their respective boards and shared them with the entire group.

CONTACT AND MORE INFORMATION

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