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## The Emerging AI Coaching Paradigm: Mindsets, Techniques and Technologies

What paradigm shift is the emerging adoption of AI-powered coaching solutions heralding in coaching through its new mindsets, techniques, and technologies?

Explore Artificial Intelligence Coaching Alliance's AI Coaching Roadmap.



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# Human Coaching Ethically Partnered with Artificial Intelligence

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ARTIFICIAL INTELLIGENCE COACHING MADE INNOVATIVE,  
RESPONSIBLE AND ACCOUNTABLE.

## The Artificial Intelligence Coaching Alliance

The Artificial Intelligence Coaching Alliance (AICA) is an independent Non-Profit Research and Development alliance of stakeholders. Its mission is to ensure human coaches can ethically partner with AI facilitated Coaching.

### Aims

- Enhance the realisation of potential for coaching clients through hybrid Human/AI practices.
- Facilitate Human-Centric AI Coaching by founding practices on Values-Centric and Ethically-Centric protocols.
- Build professional AI coaching competencies, training, supervision, governance, and legal compliance.
- Inform, Resource, Implement and Harness Research and Development Initiatives
- Support Social, Commercial and Economic Impact opportunities
- Foster Respect, Responsibility and Accountability for our world's resources.
- Ensure access of AI Coaching to those suffering from Digital Poverty
- Minimise Bias by including datasets and foundational AI models from different nations and diverse cultures.
- Prepare the Coaching profession for its Democratisation, Diversification and Decentralisation.

### About AICA

The Artificial Intelligence Coaching Alliance (AICA) was founded in February 2024 by Jazz Rasool.

Jazz is an Executive Coach and Technology Enhanced Education Researcher and Atmoscope AI platform creator. It was seen that AI Coaching could not be developed through several independent groups affiliated with a plethora of governing bodies, schools as well as lobbying groups. He created AICA to preserve resources, and engagement through prevention of duplicated AI Coaching development strategies by different stakeholders of coaching. He recognised it had to be done by fostering research and education through a single independent coordinated strategy shaped by key contributors. Through his practice of AI Coaching since 2015 with thousands of people, Jazz has already distilled best practice frameworks for its use, teaching, supervision, governance, and compliance. Beginning with that head start it is now time to work collaboratively and advance developments through globally coordinated intercultural efforts.



Jazz Rasool:  
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# Updates

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## Frameworks for AI Coaching:

### **PRACTICE, EDUCATION AND SUPERVISION**

How can AI Coaching be used in coaching practice, taught in coaching education, and overseen in Supervision? Get ready to utilise AICA's *AI Coaching Competency Matrix* and derived *AI Coaching Practitioner, Teaching and Supervision Frameworks*.

Release: February 2024

## Intercultural AI Coaching Governance

### **AI ETHICS, COMPLIANCE AND RESEARCH**

How can governing bodies and commercial stakeholders for coaching work together rather than duplicate intercultural governance, compliance as well as research and development programs?

See how new competencies and standards will be needed to manage AI Coaching risks and opportunities, especially in response to new AI laws in the *Intercultural AI Coaching Governance* guide.

Release: February 2024

# The AI Coaching Roadmap

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*This publication is a working document and will be refined regularly to become a reference for Roadmapping the future adoption of Artificial Intelligence into the Coaching and Mentoring professions. As such this document will forever be dynamic in its nature as more contributors add to its content, structure, and contexts. The first full version is due for release March 1st, 2024.*

AI is creating changes to the landscape of coaching realities and their future evolution. This document will provisionally look at the unfolding roadmap of evolution through three key dimensional frames, *Spaces*, *Times*, and *Domains*.

## Spaces

The changes to coaching realities are happening in three key *Spaces* that infer an emerging Paradigm Shift Cycle in Coaching,

1. Mindsets
2. Techniques
3. Technologies

## Times

Shifts are not just happening in coaching *Spaces*, they will be happening over specific *Times*. For the forthcoming ten years, 2024-2034, they will happen through three emerging phases,

1. Democratisation (Access)
2. Diversification (Intercultural)
3. Decentralisation (Autonomous)

## Domains

The areas of coaching that will be affected over the combination of space and time dimensions given above will influence one another through forces that will impact one another. The forces will act through a chain or cycle of steps that flow through the combined space-time coaching areas, areas that form the unique space-time *Domains* below,

1. AI Observation Capture
2. AI Generative Guidance
3. AI Curated Practice
4. AI Directed Research
5. AI Ethics and Integrity
6. AI Standards and Competencies
7. AI Legal Regulatory Frameworks

## The Emerging Paradigm Model (EPM)

The EPM explores evolution of knowledge, practice, and associated technology in any discipline. It suggests new Paradigms in industry and society progress through 3 stages:

### MINDSETS

New ways of thinking emerge that reframe reality through rising anomalies or gaps in knowledge.

### TECHNIQUES

Mindsets are implemented through new techniques to implement and test them in practical ways.

### TECHNOLOGY

The techniques and the tests for mindsets are refined and scaled up through the use of technologies generated for dissemination of the Mindsets and the Techniques that implement them.

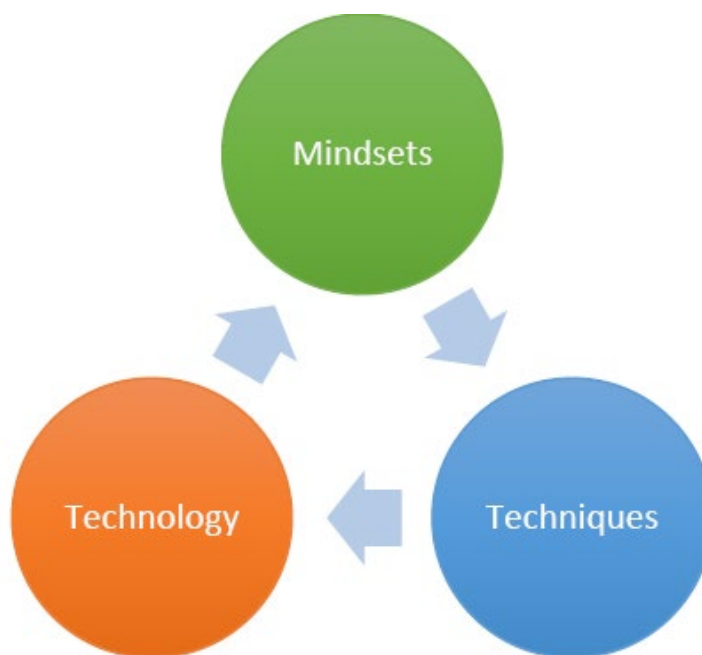


Figure 1: The Emerging Paradigm Model  
© Jazz Rasool, Sept 2008

Whenever a shift in thinking, practice or technology happens the established paradigm that oversees each of these aspects of that period in history is likely to shift. The shift can be triggered by any of the three aspects but typically begins with a new way of thinking, perception, or conception. This trigger is a shift in the prevailing mindset of the paradigm. The shift in mindset influences changes in the techniques or practices to implement that mindset. The shift in techniques, practices, or methodology results eventually in the emergence or development of new technology to refine those practices and scale the adoption of them. The shift can even lead to the decline of existing technologies no longer deemed as effective or attractive. If the technology facilitates the practices in a powerful enough way, then a corresponding shift in mindset may ensue beginning a new cycle of evolution in thinking, practice and advancing technology. This process of how a new paradigm emerges is called the Emerging Paradigm Model.

As an example, religions were first born because their proponents provided new principles and morals to live by and these mindsets were disseminated person to person or by handwritten techniques. With the invention of the printing press the dissemination quickened and a shift happened for many traditions and the number of people subscribed to them. When the level of belief in a particular philosophy exceeded a threshold those subscribed to it would typically begin practices around implementing it into reality. With enough practice they would then develop technology to refine or expand that practice as well as scale the number of people introduced to its benefits.

If the mindset was incomplete or lacked soundness the techniques or practices would soon enough reveal these issues. The consequence of practising an incomplete or unsound mindset would be that either people would lose faith in it, or the proponents would address the issues to keep people's faith. If the issues were not addressed and proclaimed as doctrine, then dogma would establish itself. With lack of challenge for the dogma those in power would sustain a system that lacked empowerment and engagement of truth. This was seen with the use of the telescope and how in 1616 astronomer Galileo Galilei was branded a heretic for proposing the Earth might not be the centre of the solar system or universe after seeing Jupiter have moons apparently orbit around it. When the mindset is sound but the practices that implement it are not, then any effective, aligned technology based on those practices, that scales or refines them, will soon enough reveal ineffective practices. When Henry Ford changed the way cars were produced, by using more effective assembly lines, many existing manufacturing practices were seen as redundant or inefficient, an experience people previously had as a trigger for migrating from horses to cars for their transport.

*An example of a mindset, technique, technology pattern is how AI is made safe for human beings.*

Raper [2024] abstracts away from the traditional mindset for AI Alignment, that focuses on how AI can be aligned with human values, and instead argues for an account of morality that is not geared towards an anthropocentric accountability. Raper says,

*"Where anthropocentricity refers to the tendency to prioritise humans above all other beings and things, a non-anthropocentric account for morality should be a view of morality that is distinct from human prejudice or favouritism. " and "...morality sits outside the sphere of simply behaving to protect our own species. ...Therefore, designing an AI which is geared towards just protecting humans is short-sighted. However, in a similar way, designing an AI just geared around human values is also problematic."*

As I've proposed in this document, the focus should not be on mindsets that enforce anthropocentric values approaches but ethically centric techniques that work with values at a meta or transcendent level, so the technology keeps humans' risk averse and safe regardless of whose values are being asked to be aligned to. In future versions of this document, the specific framing of the emerging future Space of Coaching will be explored using the Emerging Paradigm Model.

Raper, R. A comment on the pursuit to align AI: we do not need value-aligned AI, we need AI that is risk-averse. AI & Soc (2024). <https://doi.org/10.1007/s00146-023-01850-7>

# Times

Coaching is changing over time. With the rising use of AI in 2023, AI started to be more accessible and democratised. More cultures had access to it and that started to lead to diversification of models and datasets although much has yet to be done to ensure intercultural integrity of outputs. As more nations purchase hardware to run their own culturally specific AI, there is a decentralisation of AI suppliers from mostly Western influenced sources to a greater provider diversity.

This section will begin to document how changes over time will facilitate Democratisation, Diversification and Decentralisation, the 3D Time Phases. Figure 2 provides an overview on the likely levels of emergence of these phases over the time period 2024-2034 and beyond.

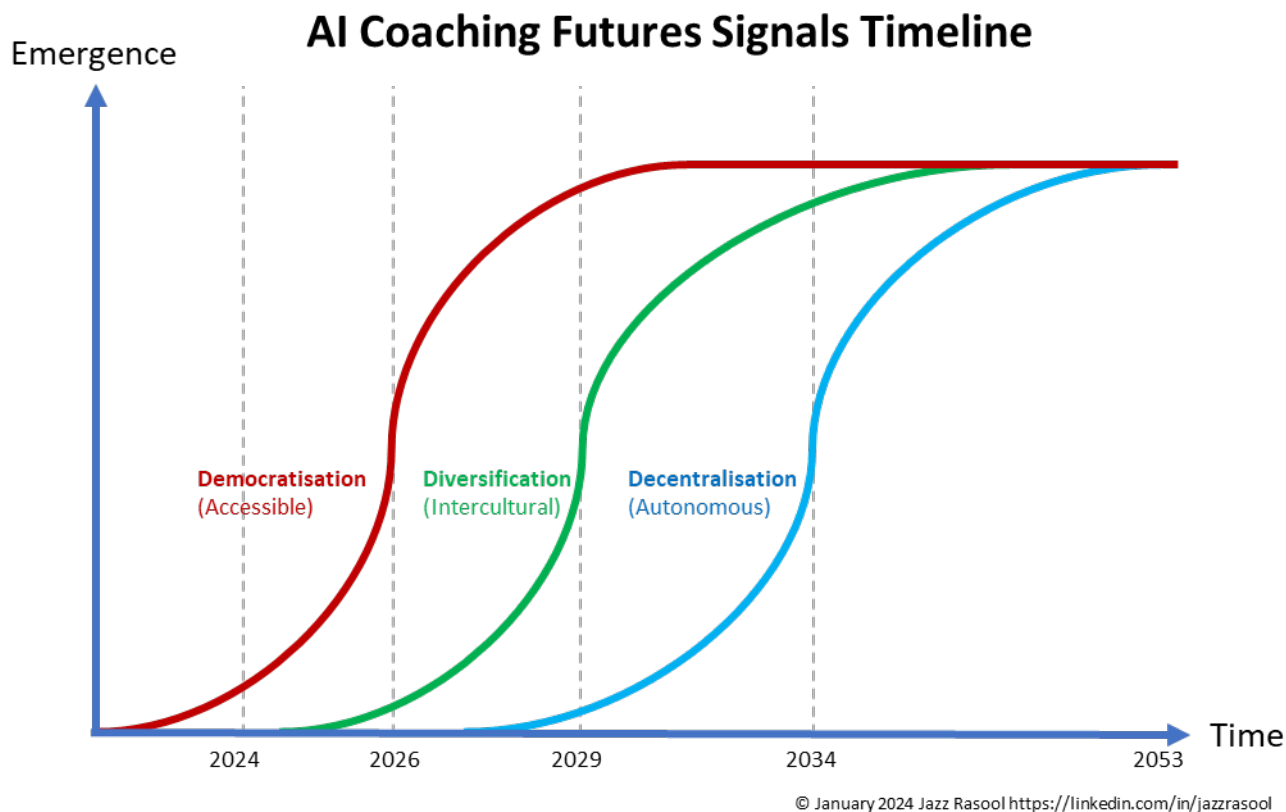


Figure 2: AI Coaching Futures Signals Timeline

## Democratisation (Timescale 2024-2026)

AI is enabling coaching to be made accessible to anyone with access to digital channels, democratising its availability and access. Still, Digital Poverty remains even in 1<sup>st</sup> world nations, yet 1<sup>st</sup> world citizens still have the advantage whereas 2<sup>nd</sup> and 3<sup>rd</sup> world nations remain held back. Democracy seems to mean universal access but does not currently relate to AIs being encoded to have alignment to democratic human values or ethics. Although many people are calling for *Human-Centric AI* it is not a perfect mindset given the fallibility of human beings. A better option is to have *Values-Centric AI*, yet this has its challenges too given human beings can have competing values.

My personal suggestion is to recognise how Ethics can provide ways of managing diverse values and cultures of human beings and so perhaps an *Ethically Centric AI* development path might prove the most pragmatic. This was thought to prospectively have challenges being encoded into algorithms. Having said that the ethics many coaches are exposed to in their training, the principles of Immanuel Kant, have now been encoded into AI foundational models so this is important to recognise as a promising endeavour to cultivate Ethically Centric AI.

## Diversification (Timescale 2026-2029)

As more cultures gain access to digital channels, AIs currently bloated with content and models from Western sources will begin to be transformed by contributions from advancing intercultural adoption. AI's will become more interculturally proportionate and a diversification or decolonialisation of coaching will start to happen. The tail end of this period will overlap with the first predicted emergence of Artificial General Intelligence (AGI) estimated to arise 2028-2032.

As more nations become free of former colonial rulers and chose no longer to even welcome their centralised heads of state or offspring, diversification will inevitably be followed by decentralisation. It's a thing that naturally tends to follow. I am conscious though that many former colonies still rely on financial and infrastructure support from their former rulers, in exchange for access to mining and/or exporting of natural resources. As intercultural foundation models emerge, the original LLMs may very well still be drawn on in exchange for culturally localised datasets.

Rebecca Rutschmann states that

*“As less developed countries accessibility is mostly through mobile, I would be curious to think about the possibility of those regions adopting earlier than you might have predicted here. Once smaller language models are running on phones and bigger ones are much better available via mobile, I don't see why it should take as long as 2028 for decolonization to kick-off. Just thinking... all my predictions happened a lot earlier since the rise of gen AI, while before they were always delayed for 1-2 years.”*

Taking that into account the onset of time frames for the 3D Time Phases may be reduced by 20% or more.

## Decentralisation (Timescale 2029-2034)

As AIs and Coaching transform through more democratisation and diversification, governance will not be solely driven by Western sourced, centralised governing bodies. China has long developed AI in pace with Western progress. Cryptocurrencies like Bitcoin were a response to decentralised finance not exclusively under the control of banks. Decentralised architectures like Blockchain will start to see migration of coaching governance into online ledgers, resulting in no one body overseeing AI partnered Coaching. Governing bodies will still exist, but their remit will be dramatically different, possibly like how different cryptocurrencies have different merits.

Security that operates through peer-to-peer chains that are tamper proof will see Trustless channels for mediating and governing coaching activities. Therefore, current governing bodies of coaching will see a dramatic change in their remits and servicing of coaching professionals. This will overlap with the era in which AGI realisation and adoption becomes widespread, and Artificial Intelligence has begun to demonstrate Sentience. This will also be the period when Quantum Computing will no longer be operating out of labs but will start to be embedded into consumer devices, bringing about the dawn of devices that provide the first experience of elementary conscious machines. These machines will have a dramatic effect on how coaching is done independently of human coaches and will require enhanced Human/AI ethical partnerships to ensure Humans are advanced and not sidelined in businesses, government, defence, medicine as well as economic operations. The final stages of this will be completed with the rise of Artificial Super Intelligence (ASI) around 2053, which possibly evolves beyond Artificial Sapience, beyond intelligence of our species, Homosapiens.



# Domains

The Roadmapping strategy core deliverables for Human/AI Coaching and Mentoring (HAICOM) Technologies and Practices will be compiled based on qualitative and quantitative tools developed for the 2015 €1m EU funded FP7 project, CREAM, that delivered strategic insight into how the Creative Sectors in Europe would evolve over a 20-year period. These deliverables are the domains within which the pragmatic evolution of Ethically Partnered AI Coaching will happen

In 2015 Jazz Rasool designed the methods to convert qualitative data gained from interviews with experts and other stakeholders to make forecasts of emerging futures. The methodologies were peer reviewed, approved, and published, going on to demonstrate calls for emerging standards, competencies, technologies, practices as well as regulations. The same unique data science tools created for CREAM will form the basis of a new adapted and up to date design for strategic road mapping of emerging Human/AI Coaching and Mentoring Technologies and Practices.

Seven Domains will emerge as core change areas for coaching influenced by AI Interventions.

## 1. AI OBSERVATION CAPTURE

The first domain is observational capture of data and feedback from sessions as well as datasets of current coaching models and AI foundational models used for AI guidance. This can be as advanced enough to include carbon footprint of AI supported sessions.

## 2. AI GENERATIVE GUIDANCE

The second domain uses data captured to inform foundational models for AI Coaching on how to respond to prompts simply for clients seeking guidance, independently of coaches and for coaches seeking guidance on how they might practice with higher aligned competence.

## 3. AI CURATED PRACTICE

The third domain uses generative guidance to nudge client and coach behaviours for facilitating coach development or client goal attainment within the context of sessions and the sustainability of momentum secured because of interventions during the session.

## 4. AI DIRECTED RESEARCH

The fourth domain at minimum collects 3 kinds of proof from Practice for directed research: evidence, experience, and education. Hard evidence will be recorded and tangible quantitative data. Qualitative data for which there is no tangible data but is recognised through felt or expressed Experience can also be obtained. Approaches discovered through learning, ideas and models can provide educational proof for which there is yet no evidence or recorded experience for. Although there are several additional kinds of proof that should also be collected for completeness, the three kinds of proof mentioned need to be collected as a minimum for directed research to have a minimal significant integrity in results and interpretations which are generated as outputs and outcomes.

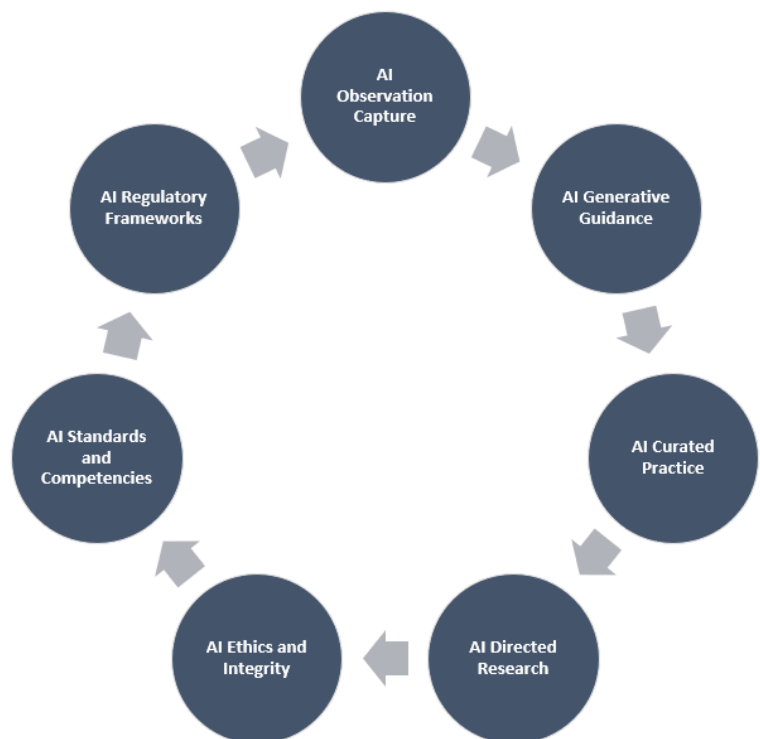


Figure 3: Road mapping Deliverables for AI Coaching and Mentoring Technologies and Practices

## **5. AI ETHICS AND INTEGRITY**

The fifth domain uses the 3 minimum proof based directed research to establish refinement of existing practice competences and measurables, especially in management of expedited values and their ethical oversight. This will see a refinement in ethical guidelines and the dimensional frames that they operate through. The consequence will be an enhanced integrity for the practice of coaching. This also suggests caution in producing ethical guidelines as a first response to adoption of new mindsets, techniques, or technologies as the stages prior to this one should have been completed as a prerequisite. When this is done guidelines might be compromised by undiscovered, unrecognised observations, guidance, practice, and research that was not surveyed in mapping emerging environments.

## **6. AI STANDARDS AND COMPETENCIES**

The refined and expanded integrity gained from upgraded AI Coaching Ethics and Integrity can be used to define and establish new standards and pragmatically applicable Human/AI intervention competencies. These will need to be incorporated into Training providers of Coaching Certification, Credentialing and Continuing Professional Development programs, integrating the standards, models and competencies into Pedagogical strategies and frameworks. This will include having Coaches that provide supervision of coaches becoming competent on guiding them in AI facilitated coaching challenges and associated emergent ethical dilemmas.

## **7. AI LEGAL REGULATORY FRAMEWORKS**

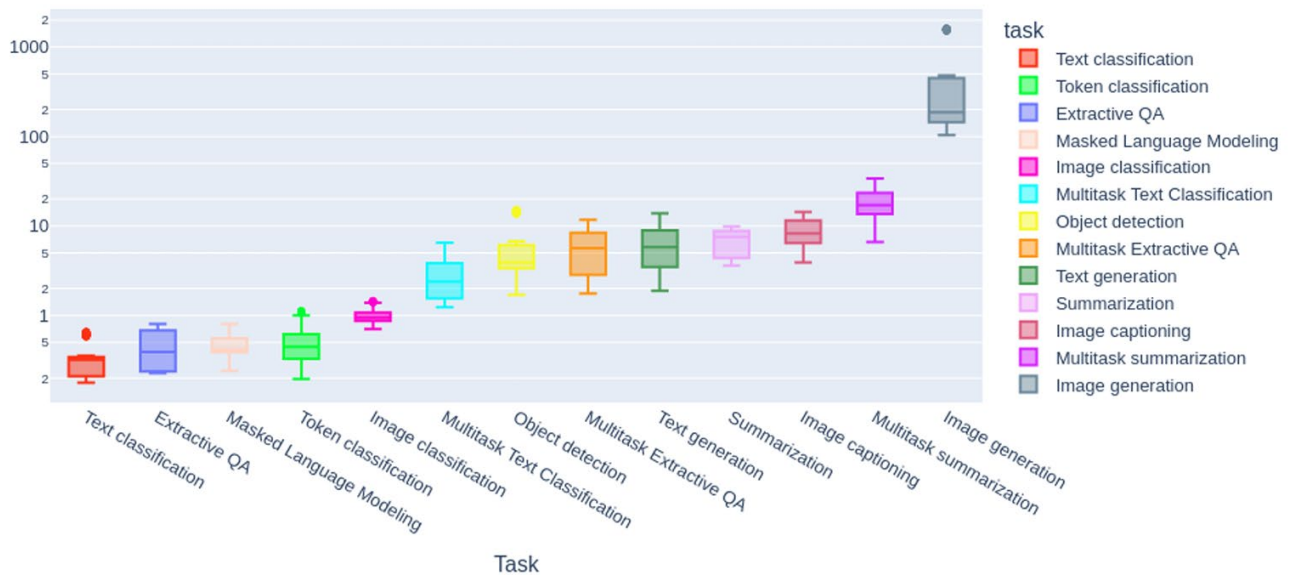
Updated, aligned standards and competencies will need to be adjusted to ensure they align to emerging acts of AI law. Compliance and regulatory enforcement will need to be carefully evaluated to see where new data and models are required to validate compliance to acts of AI and other laws. This will influence what data is captured during observation of coaching practice as well as the models utilised. This then begins another cycle of change through the domains of AI Coaching.

Such a cycle should be progressed by governing bodies and Coaching stakeholders following an Agile management strategy, that is going from AI Observation Capture to AI Legal Regulatory Framework refinement at a minimum of every one to two weeks. AI's pace of change is not something that can be responded to in an annual conference or monthly reviews. Any governance of AI coaching must operate on the same timescales as the software developers of AI systems, that is an Agile cyclic timescale with a period of review and action every one to two weeks. Any longer review cycle than this will see governance fall behind the effects of patches and changes made to AI systems. The consequence of that will be heightened risk and reduced opportunity for Coaches using AI to refine their practice while helping their clients realise their potential.

Regulatory efforts and adoption choices must consider the ever-increasing energy demands of AI functionality and their impact on climate change. Luccioni, Jernite & Strubell (2023) found that,

- Tasks that are generative and involve images surpass discriminative tasks and text in energy and carbon intensity. Stable Diffusion XL expends nearly 1 phone charge of energy each generation.
- Compared to inference, training consumes vastly more energy and carbon. Achieving the energy use of training requires 200 to 500 million inferences with a model from the BLOOM family. For models like ChatGPT, popular with millions, this level is quickly attained.
- Using universal models for specific discriminative tasks, like sentiment analysis and question answering, is notably more energy-consuming than task-specific models for these tasks. The energy use discrepancy can reach up to 30-fold, dependent on the dataset.

The chart in Figure 4 gives an outline of the Carbon footprint cost in grams for different kinds of AI task. The chart uses log scale for the cost.



**Figure 4: Carbon footprint per AI task in g.**  
 Alexandra Sasha Luccioni, Yacine Jernite, Emma Strubell, 2023,  
 retrieved from <https://arxiv.org/abs/2311.16863> on 9th February 2024.

Luccioni says,

*“The average smartphone requires 0.012kWh of energy, which means that the most efficient text generation model uses as much energy as 16% of a full smartphone charge for 1,000 inferences, whereas the least efficient image generation model uses as much energy as 950 smartphone charges (11.49kWh), or nearly 1 charge per image generation.”*

Based on such figures it is clear AI Coaching has direct effects on factors that influence Climate Change. We cannot adopt such technologies without reflection and action to somehow compensate for what we are contributing to. In meetings, discussions, and impact programs of AICA there will be a strong drive to address this effect of using AI in Coaching

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