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Are we “AI ready?”

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Artificial Intelligence (AI) is a very trendy topic in research and in our day-by-day life. Although it has become a “hot issue” in the past few years, it has actually entered the scene long ago: the underpinning theories of AI by Alan Turing, Marvin Minsky and John McCarthy date back to the 1950s, and AI has been used in the finance industry for a while already.

In the last few years, however, the speed of change and the breadth of use and impact of AI in our lives (private and professional) have dramatically increased. Nowadays, people use AI often without realizing it: search engines, navigation tools, chatbots, language translations rely on AI systems and permeate our lives.

According to the draft AI Act proposed by the European Commission, AI is “software that is developed with one or more of the approaches [machine learning, logic and knowledge based and statistical approaches] and that can, for a given set of human-defined objectives, generate outputs such as content, predictions recommendations or decisions influencing the environments it interacts with”.

A great system, or tool, that, if misused, can do great damage!

So, within the main question “are we ready for AI?” the main issue at stake is “how do we manage AI in a meaningful way”?

Many are the dimensions touched by this question, ranging from technological development to ethics, and for sure they cannot be dealt all at once. Indeed, the focus of this article is on AI related skills, and more precisely on the skills are needed, now and in the near future, to fully exploit and avoid misuse of AI.

Looking at data from ongoing research across the world, we can identify some common patterns in current AI-related training provision and demand:

- **AI training -not just for the few** - AI training is not just needed for AI specialists or tech professionals: The ARISA “AI Skills Needs Analysis” report highlights that “Organisational decision-makers like business leaders and middle

management, and policymakers all need basic AI knowledge and skills”. In addition, according to the report, there is a growing need for “AI advisors that combine deeper AI knowledge and skills with expertise on policy or business”.

- **AI training for AI related professions – a kaleidoscope of skills** – although the offer is wide and increasing across the

globe, with delivery by higher education institutions and training providers, the speed of change in terms of required professional roles and related skills is so fast that – again according to the results of the ARISA AI Skills Needs Analysis report - a modular provision,

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based on short term courses and workshops to enrich and complement classical academic offer seems to be a possible solution to address the gap between a constantly evolving demand and a slower physiological response by learning providers.

- **AI training for Educators – better allying than fighting** – increasingly, educators are facing the challenges brought about by generative AI (such as ChatGPT) in learning. Educators need training to exploit rather than fight AI in education, and research is needed on the implications that AI has on the evolution of pedagogical models. At the moment, training offers in AI for educators seem to be related mostly to scattered initiatives across the globe (either publicly or privately funded). As the Technation report “Skilling Canadians for leadership in the AI economy” highlights “AI teaching capability development for all disciplines and programmes should be a priority for public education at all levels”.
- **AI training for all – a social need** – to increase trust, de-mystify AI and change the perception of people from being threatened to being empowered by AI, training initiatives addressing the whole population are in strong need. The “Elements of AI” free online course developed by Reaktor and the University of Helsinki (a course divided in two parts, a less technical one providing general information on AI and a more technical part for those interested) has been taken according to their website, by 1 million students from 170 countries across the globe.

In terms of skills needed to comply with the fast-evolving AI's impact on all dimensions of our lives, there are clear differences among the target groups

identified above, although soft skills still play the “common denominator” role.

There is consensus on the fact that AI professionals need, beside the specific set of technical skills related to their role (data scientist, machine learning engineer, prompt engineer etc.), a set of soft skills (problem solving, critical thinking), organizational skills (project management) and knowledge of transversal topics related to AI (security and ethics just to quote few). A challenge in this area is represented by upskilling needs in companies: the IBM report “Augmented work for an automated, AI driven world” highlights how difficult it is to upskill a software specialist into an AI software specialist as the skills and knowledge needed are almost completely different” role.

The differences are so significant that it is recommended to designate AI software developers as a

new occupational category (and the same is true for many other professional “tech vs. AI” profiles.

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The ARISA AI Skill Needs report lists AI risk management, AI compliance, AI strategy, and implementing AI as the main skills for AI advisors and basic terminology &

practice, AI ethics, and law & regulations as the main skills for policy and decision makers.

As for educators, although the main focus at the moment is on how to master AI in teaching and make it an ally rather than an enemy in learning, the Technation report highlights the need to increasingly focus also on skills related to guiding students in their AI-related learning path.



Moving to the wider concept of “citizen” a basic knowledge of AI and its tools, is needed, accompanied by the capacity to recognize where it is “hiddenly” used and how this can be managed are for sure the most urgent skills to be developed.

From the above overview, it is evident how AI-skilling impacts on being AI-ready; of course, the extent and nature of the training and skills needed varies depending on the social and professional role we play in life, but all of us need some forms of AI training and AI-related skills.

At the moment, the major efforts in place to provide meaningful training offers in AI come from learning and training providers and address mainly workers and future workers (Higher Education students).

To increase awareness about AI, demystify AI and ensure future generations are AI-ready, training offers should be ensured in a lifelong learning perspective, leaving specialized training to Higher Education institutions and training providers, and offering basic training for all starting from kindergarden.



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This article is a result of the authors’ ascertainment and analysis, without compulsory reflecting CEST opinion.