AI Literacy Competencies for Educators*

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There are 8 key topic areas with 72 competencies in total.

Under each of the key areas, there are three levels of competency:

- **Level 1 – Explorer**
  - At this level, learners develop a basic understanding of the topic. The focus is on awareness, recognition and description, equipping learners with the essential knowledge needed to engage with more advanced content.

- **Level 2 – Integrator**
  - Building upon the foundational knowledge, learners at this level dive deeper into the intricacies of the topic. They engage in analysis, evaluation, and synthesis of information. The focus shifts from recognition to conceptualization and application, enabling learners to critically engage with the topic and its nuances.

- **Level 3 – Pioneer**
  - At this level, learners not only have deep comprehension of the topic but also contribute to it. They engage in content creation and curation, thought leadership, and strategic activities within the topic. The focus is on active engagement, consultation, and contribution to the community.

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	Level 1 - Explorer	Level 2 - Integrator	Level 3 - Pioneer
AI Fundamentals	• Define basic AI terminology such as “data”, “algorithm”, “machine learning”, “AI agents”, and “multimodal AI” • List major milestones, key techniques, and contributors in the development of AI	• Categorize foundational AI research papers, policies, or projects and explain how they shape the current development of AI • Explain the concept of an AI model and multimodal AI, and its training process	• Critique the current AI research outputs and model development practices • Participate in emerging AI research areas such as explainable AI (XAI) or natural language processing (NLP)

	• Identify how AI is used in everyday life, such as facial recognition in smartphones or recommendation systems on online shopping platforms	• Distinguish between AI, machine learning, deep learning, and other subfields	• Teach AI concepts to others, and mentor emerging talents in our own field
Data Fluency	• Identify the context in which data was collected and where it was sourced, including the emerging practice of synthetic data • Identify data poisoning and adversarial attacks that can manipulate AI outcomes • Describe the importance of data governance and emerging regulations	• Evaluate the completeness, consistency, timeliness, accuracy, and relevance of data • Cleanse and normalize data to suit specific analytical needs • Utilize different AI tools to perform data analysis	• Design and create effective visualizations tailored to the data type and intended message, using different AI tools • Engage in discussions, debates, or decisions, using data as a foundation to influence outcomes and drive informed decision-making • Lead the data governance framework development within your organization or community
Critical Thinking and Fact-Checking	• Describe the context in which AI information is presented and the reliability of the sources • Detect potential logical fallacies, mis-information, AI-generated deepfakes, synthetic media, over-generalizations, and bias • Investigate the sources of AI claims, tracking back to	• Compare and contrast content outputs and interpretations from various AI tools • Investigate the sources of AI claims, tracking back to original studies, datasets, or foundational literature • Analyze how prompt engineering affects AI-generated misinformation	• Develop techniques for AI bias auditing in misinformation detection • Formulate informed and balanced critiques of AI narratives, research, and claims • Engage in discussions, forums, or publications, providing informed opinions or clarifications to the broader AI community

	original studies, datasets, or foundational literature		
Diverse AI Use Cases	• Describe how AI is used in diverse sectors including some of the recent breakthrough in climate change research, personalized medicine, driverless cars, and more • Describe the fundamental AI technology or methodology driving each use case, such as neural networks in image recognition or reinforcement learning in game playing • Identify the benefits and challenges posed by AI in each sector	• Evaluate the impact of AI on a specific profession or industry • Analyze the potential pitfalls or challenges in implementing AI in specific scenarios • Compare and contrast different AI approaches used for similar tasks across various sectors. For example, compare facial recognition in security applications vs. social media platforms	• Assess and forecast the long-term sustainability and viability of AI solutions in real-world scenarios, evaluate their adaptability, scalability, and ongoing maintenance requirements in diverse sectors • Participate in the design of AI applications for a specific profession or industry • Critique existing AI applications in specific sector and propose alternative approaches or mitigation strategies
AI Ethics	• List the types of risks (perceived and real) stemming from AI applications, such as biases in algorithms, privacy concerns, misinformation spread, and job displacements • Define ethical principles as related to AI, such as fairness, transparency,	• Assess the level of risks associated with specific AI implementations, considering both the immediate and long-term implications • Curate and disseminate use cases on AI ethics, highlighting both positive examples of ethically-aligned AI and cautionary tales of AI gone awry	• Develop strategies to audit AI bias and improve transparency within your organization or community at large • Mentor and guide peers, colleagues, and decision makers in ethical AI practices, establishing a culture of ethical AI use

	accountability, and privacy • Review and compare AI governance in industries, countries, and regions	• Examine the global adoption of AI technologies through the lens of the digital divide, considering disparities in access, usage, and impact across different regions and demographics	• Participate in sector-specific, country, or international ethical discussion and policy development
AI Pedagogy	• List commonly used AI tools and their functions in education, including multimodal AI and AI agents • Identify the pedagogical theories and principles that are enhanced or challenged by AI integration across various sectors, considering AI's role in adaptive learning, content co-creation, and differentiated instruction • Recognize the benefits and potential limitations of using AI in educational settings	• Analyze whether AI tools used for education align with proven pedagogical principles and impact learning outcomes • Test and pilot various AI tools and platforms used in education • Apply evaluation metrics to assess the appropriateness and effectiveness of AI tools based on specific learning needs and context, industry standards, and stakeholders' inputs from your organizations	• Propose novel use cases or scenarios where AI can enhance teaching and learning experiences • Create evaluation methodology for AI tools, considering factors such as learning outcomes, learner engagement, accessibility, and adaptability • Formulate guiding questions that help educators think critically about the integration and application of AI in their teaching methods
Assessment	• List commonly used AI tools for assessment • Describe AI assessment tools' primary functions, such as automated scoring and personalized feedback • Explain the benefits and limitations of AI in	• Integrate AI tools into traditional assessment methods to enhance scoring and provide personalized feedback • Evaluate the limitations of AI in assessments and ensure appropriate human oversight is in place	• Lead the development and implementation of innovative AI-enhanced assessment methods, ensuring they improve scoring accuracy and provide meaningful personalized feedback • Design and implement protocols to address the limitations of AI in

	assessments, including efficiency, scalability, and inclusivity	• Advocate for fairness and mitigation of bias in AI-powered assessments, considering the ethical implications involved	assessments • Pioneer strategies to ensure fairness in AI-powered assessments, actively working to identify and eliminate bias, and promoting ethical practices in the use of AI in educational assessments
Future of Work	• Describe the key moments in the history of technological innovation and its impact on job displacement • Identify industries and roles most susceptible to AI-driven change, both in terms of automation and augmentation • Recognize the basic benefits and challenges AI brings to the workplace, such as efficiency improvements or potential job displacements	• Participate in AI-human collaborative projects to provide human oversights and gain a better understanding on how best to work with AI • Evaluate the broader implications of AI on work, considering factors like income inequality, job security, the balance of power between employers and employees, or between developed and developing nations • Foster and develop new and relevant future skills and actively apply these skills at work	• Propose inclusive reskill or upskill interventions to prepare people for the future of work • Engage in or lead discussions on creating an equitable AI-driven work ecosystem, ensuring that benefits are widespread and challenges are mitigated • Develop strategies for organizations, communities, or regions to adapt to the changing nature of work, considering factors like new job categories, organizational restructuring, or policy changes