AI and Digital Transformation in Qualification Recognition

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APICE

Annual Meeting e Assemblea Ordinaria

Associazione Professionale Italiana
dei Credential Evaluator

Why talk about AI today?

- Global mobility keeps growing: +6.8M international students (UIS, 2025)
- Recognition of qualifications is still slow, manual, and fragmented
- AI is transforming how we process and validate information – including credentials
- European frameworks (Lisbon Recognition Convention, Council of Europe, European Commission) call for fair, transparent, and modernized recognition systems

AI as a General Purpose Technology

Broad Applicability Across Sectors and Industries

AI is a foundational technology whose capabilities can be harnessed in numerous fields, from healthcare and finance to education and the arts.

Automation of Cognitive Tasks

Unlike previous technologies that focused on automating manual or repetitive tasks, AI has the power to automate cognitive tasks that require learning, reasoning, and decision-making.

Adaptability and Evolution

As more data becomes available and as computational power increases, AI systems can handle more complex tasks and provide increasingly sophisticated solutions.

Societal and Economic Transformation

AI has the power to reshape economies by creating new industries, redefining roles, and generating new business models.

Complementary to Other Technologies

AI also enhances the capabilities of other emerging technologies, such as the Internet of Things (IoT), Big Data, and cloud computing.

What is AI and how it is different from GenAI?

Artificial Intelligence is a broad term that encompasses a wide range of technologies that enable machines to mimic human cognitive functions. **Generative AI** is an advanced subset of AI that focuses on the ability to create and modify content, such as text, images, and other content.

Examples of AI

- Route navigation in Google Maps
- Autocompletion in Research Engines
- Autocorrection in word processors like Microsoft Word

Examples of Generative AI

- Summarization of documents and emails
- Generation of sentences and paragraphs from simple prompts
- Creation of applications without code

What is AI?

University of Oxford

“the study and development of computer systems capable of performing tasks that typically require human intelligence.”
This includes activities such as visual perception, speech recognition, decision-making, and language translation.

Stanford University

“the science and engineering of creating intelligent machines that can carry out tasks that typically require human intelligence.”
This definition encompasses various capabilities, including understanding natural language, recognizing images, solving complex problems, and making decisions based on data

Definition of AI-systems

OECD (updated in 2023)

“An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments. Different AI systems vary in their levels of autonomy and adaptiveness after deployment.”

AI Act (2024)

“AI system means a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments.”

Council of Europe Framework Convention on Artificial Intelligence (2024)

“Artificial intelligence system means a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations or decisions that may influence physical or virtual environments. Different artificial intelligence systems vary in their levels of autonomy and adaptiveness after deployment.”

What do this definitions have in common?

Machine-Based Systems
This means AI systems run on machines and operates independently of human cognition.

Objective-Driven Behaviour
AI systems are designed to achieve specific goals, whether they are predefined (explicit) or inferred through the system's learning process (implicit).

Inference
AI systems process data (inputs) using algorithms and models to produce results (outputs), such as predictions, recommendations, decisions, or content creation.

Autonomy and adaptivness
This means that not all AI systems are equally autonomous. Adaptiveness refers to the ability of AI systems to learn and evolve after deployment, adjusting their behavior based on new data and experiences.

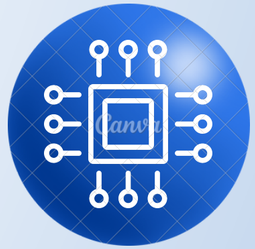
Generating Outputs
AI systems can generate predictions, content, recommendations, or decisions.

The building blocks of AI

DATA

COMPUTATIONAL POWER

MATHEMATICS AND STATISTICS



ALGORITHMS

Set of instructions that tell the AI system how to process data. These algorithms can be simple rules or complex mathematical models that help the system analyze data, learn from it, and make decisions.

How do users interact with LLMs?

Prompt = starting point

- Instruction or stimulus given to an AI system to generate a coherent response.
- The model neither knows nor understands, it predicts.

Let’s Test Ourselves! Interactive Prompting Activity

- **Try entering a prompt like:**

“Describe the main duties of a credential evaluator, the knowledge, competencies, and skills required for the role, and finally, explain and justify to the General Director of your university why having a credential evaluator is important.”

"Act as a credential evaluator. Compare a “grado en derecho” in Law from Spain with an Italian Laurea Triennale."

- **Discuss:**

-What works?
-What’s missing?
-Where would human judgment still be needed?

Institutional Readiness Dimensions

Technical Readiness

- Data governance and infrastructure, secure platforms, algorithmic design aligned with fairness.

Social Readiness

- Are people trained and open to change? Do they understand how AI works?

Sustainability Readiness

- Can we implement AI in a fair, inclusive, and lasting way?

These dimensions align with policy directions set by the European Commission and Council of Europe on responsible digital innovation.

What AI Can (and Can’t) help with?

Can

- Extracting and translating data from foreign credentials
- Detecting document inconsistencies
- Generating draft recognition statements

Cannot (and should not) replace:

- Final decisions
- Contextual judgment
- Ethical responsibility, as emphasized by European policy frameworks

Risks to Watch Out For

- "AI-washing": Using AI only to appear modern, without real impact
- Bias in datasets: AI can reflect existing inequalities
- Overreliance: Replacing people instead of supporting them
- Lack of explainability: If you can’t explain a result, you can’t justify a decision

These are core concerns in the AI ethics guidelines proposed by the European Commission and the Council of Europe’s Treaty on Artificial Intelligence.

Practical Tips for Admissions Officers

- Start small: Use AI for translation or summarizing long texts
- Stay in control: Always double-check outputs
- Think about data privacy: Don't input personal data into public tools
- Share experiences: What works for one university might help others

Key Takeaways

- AI is already changing how we approach recognition tasks
- It should support, not replace, human expertise
- Institutions need to prepare technically, socially, and ethically
- European actors like the Council of Europe and European Commission promote responsible AI use in education
- Collaboration is key to avoid superficial use of AI

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GRAZIE PER L'ATTENZIONE

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