AI CERTs™

# Establishing the AI Score

## A New Standard for AI Proficiency

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# Establishing the AI Score

***A New Standard for AI Proficiency for professionals***

Artificial Intelligence or AI has become a part of everyday parlance whether in professional life or in personal life. There are technologies, technology stack, use cases, AI models, and uses of mathematics & statistics that form the ecosystem of AI. In such a scenario, developing a model that correctly assesses professionals on AI competency with different weightage to different skills and knowledge is a necessity. At the same time, it is important for professionals to know the gaps in their repertoire of skills and knowledge so that they can bridge them to become truly an AI professional.
This is the use case, which gave birth to the idea of AI Score by AI CERTs. The AI Score offers a standardized, data-driven approach to evaluating AI skills, combining certifications, professional experience, practical assessments, industry contributions, and feedback.

## 1. Executive summary

The idea of evaluating AI score for professionals and individuals is relatively new but it can transform the way hiring is done in the age where AI is norm. It can prove to be an important tool for individuals as well as for organizations.
For individuals, i.e. professionals, job aspirants, and students, AI score can act as a standardized score to demonstrate their AI skills to potential employers. This can also help them identify the gaps and enroll for right courses to bridge the gap. Moreover, the AI score by AI CERTs is very comprehensive in nature covering not only short term courses in AI but professional experience, domain experience, educational qualification and branch, and past roles.
For organization, the AI score can work as a proxy for the overall skill measurement in AI domain. It will be an objective, data driven assessment for filtering the suitable candidate for their requirements. In these times where skills take precedence over degree, traditional scores will not be able to identify suitable candidates for a job profile. AI score by AI CERTs fills the gap and enables organizations to assess potential employees effectively.

## 2. Introduction

As artificial intelligence (AI) becomes integral to business and industry, assessing AI proficiency among individuals has become a challenge. Companies face difficulties in accurately assessing the AI skills of potential hires. Current methods, such as technical interviews and coding tests, often lack standardization and do not provide a comprehensive view of a candidate's AI capabilities.

The AI Score aims to fill this gap, offering a holistic, consistent, and adaptable measurement of AI proficiency that aligns with industry needs. The AI Score offers a standardized, data-driven approach to evaluating AI skills, combining certifications, professional experience, practical assessments, industry contributions, and feedback. This whitepaper introduces the concept of the AI Score, its methodology, implementation, and the potential impact on the recruitment landscape, positioning AI CERTs as a leader in AI capability assessment.

With the rise of machine learning (ML) post 2000, technology enabled ML models such as decision tree, random forest, support vector machine, and many others provided much needed techniques to use in operations in different domains. These models made big data analysis much easier, enabled businesses to study enormous amount of data and carry out sophisticated analysis for various core processes critical to the survival of industries..

Technology kept its pace of development and the second decade of 21st century witnessed significant progress of natural language processing (NLP) and emergence of large language model or LLM. ChatGPT is an example of LLM. They are used in assessing sentiments, feedback, reviews, and make sense of information galore.

Uses of these models are getting common in various industries. These models should be an integral part of a professional's skills. There are many such skills that the modern industry driven by AI needs in its employees. AI CERTs AI score measures the relevant skills to enable industry hire better.

## 3. Market Need for an AI Score

According to a McKinsey study, leaders find hiring very difficult for AI related skills such as data scientists, machine learning engineers, data engineers, business analytics professionals, and AI developers [1]. There are two reasons for it.

First, there is big skill gap in AI. The traditional education, despite the changes in its curriculum in last few years, is not able to catch up with the rapid changes in technology, especially AI.

Second, there is no standardized way to quantify the skills and knowledge so that objective assessments can be done on prospective employees. There are few scoring mechanism provided by individual EdTech companies on their courses, but it still doesn't capture various aspects of individuals' education.

In another Gallup poll, it was found that about two-thirds of employees do not use AI tools and technologies in the workplace. This includes 54% of white-collar employees. It means about half of the employees do not realize the immense gain in productivity that AI can deliver to their work and through that to organizations [2].

The demand for AI skills has surged putting companies on the spot for AI hiring. Traditional recruitment tools do not fully capture the diverse skill sets required for AI roles, such as machine learning, data manipulation, and practical project management. Hence there is an immediate market need for an AI Score which can:

- Simplify the recruitment process by providing a standardized AI skill assessment
- Help professionals benchmark their AI expertise and identify areas for improvement.
- Enable organizations to match AI talent with appropriate roles, thereby optimizing team performance and innovation.
- Keep updated with new technologies to remain up-to-date

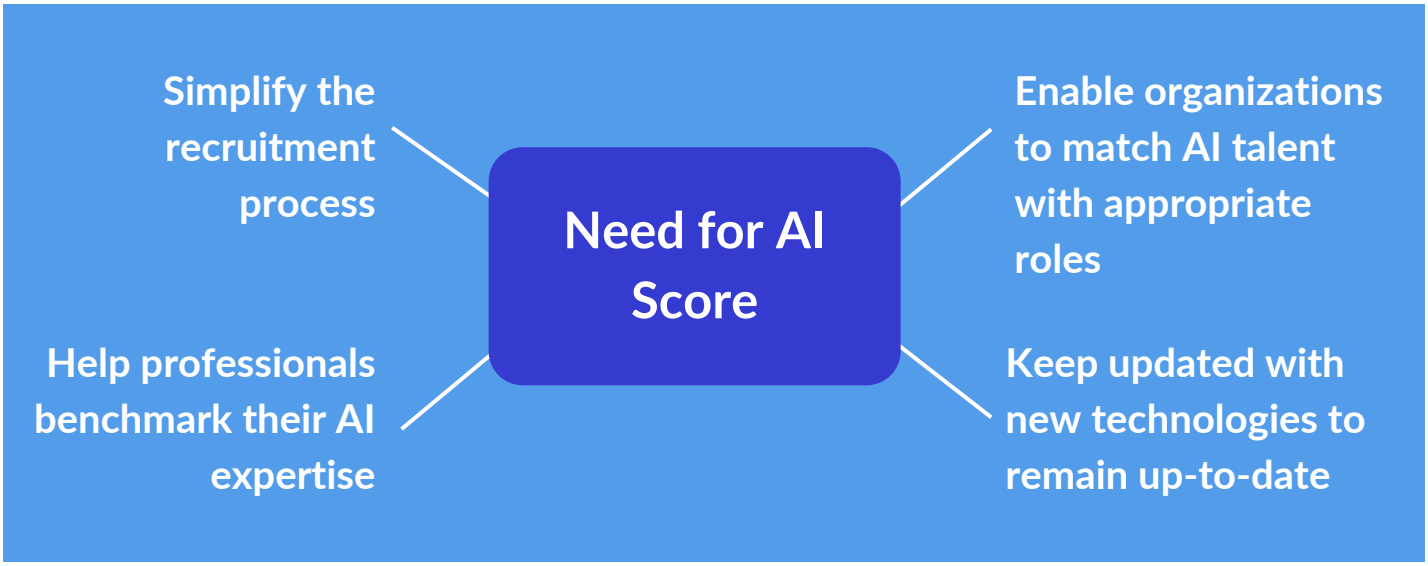



Fig – 1: Need for AI Score

### 3.1 The existing market in AI Score

AI scoring is a new idea in assessment matrix so there aren't many companies in this area. However, the idea is slowly catching up. The other reason is the complexity involved in assessing individuals on AI competency. AI competency involves multiple aspects such as technical, business, and human. Unless a competency framework focuses on these three aspects, it will only be able to partially do the assessment.

The lead, however, is taken by educational institutions, and top consulting firms. There are few companies who are also doing or trying to develop an AI competency framework. There are mainly two types of players in the market on AI assessment and scoring.

The first category is EdTech companies that provide training on AI & its related technologies. These companies assess individuals on various technologies such as machine learning, NLP, computer vision, Blockchain technologies, and others and provide a score. These scoring are done on their courses. The scores while useful serves a very limited purpose because these are restricted to the courses offered by the EdTech companies.

The second category are colleges that use AI score to assess AI readiness of their curriculum and academic programs. Based on their scores, they integrate AI in their existing programs. This too has limited purpose because they are oriented towards academics.

## 3.2 AI CERTs' framework for AI Score

This is where the AI CERTs' AI score framework empowers both individuals and businesses to achieve a mutually beneficial common ground. AI score framework is the need of the hour. At the same time, since AI technology is ever evolving, the description of competencies will be a dynamic process and not static.

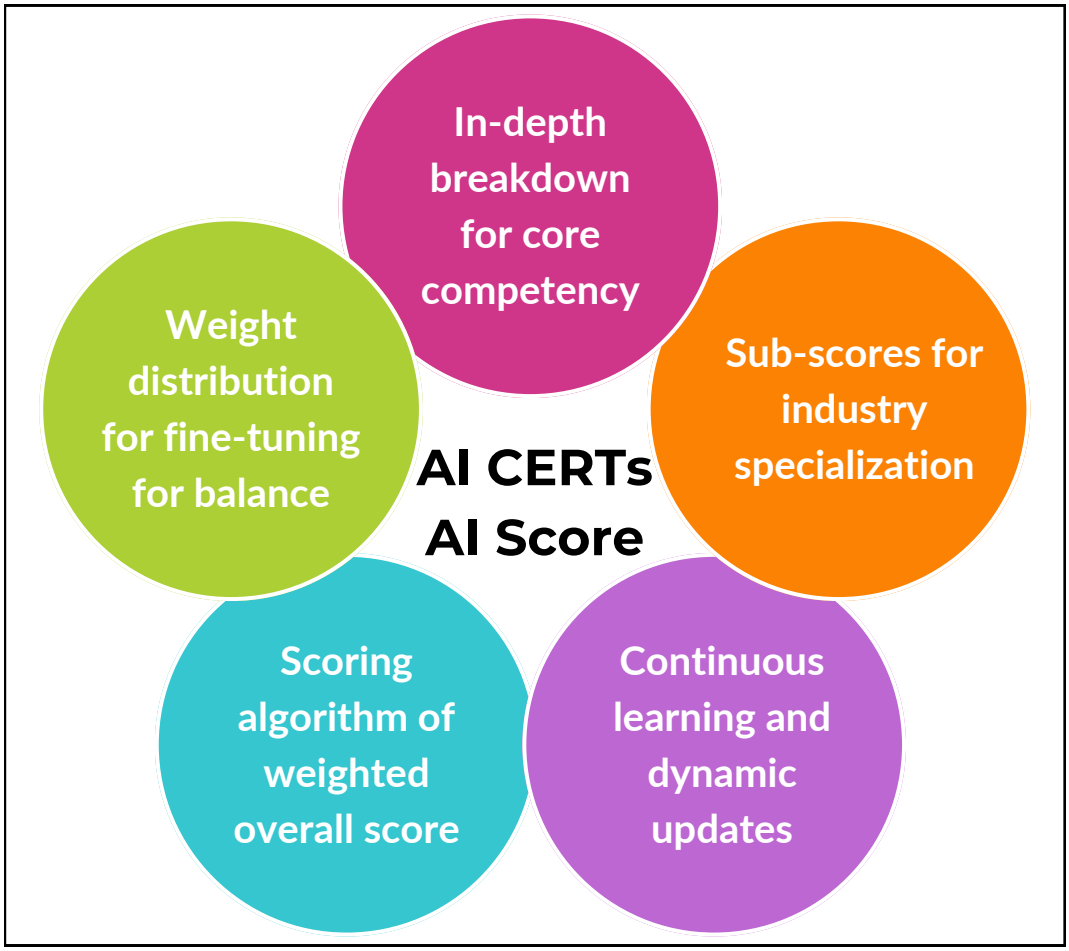
The AI Score competency framework is designed to ensure that various skills and knowledge falling under the broad spectrum of AI is captured. It serves two purpose. One, it provides right picture to companies about possible hires. Two, it empowers professionals and job aspirants to understand the gaps in their knowledge and skills and recommends how to bridge them. Here are some of the important features of AI Score by AI CERTs.

- Complete AI competency framework – The AI CERTs' competency framework is complete in all respects. It not only measures the knowledge but also provides scores to your qualification and existing knowledge.
- Exclusive focus on AI – Unlike other companies, AI CERTs focused approach to AI provides it with an edge which is not easy to replicate. It operates in various space of AI such as white papers, case studies, domain specific training, role based training, AI reports, and many other areas of AI.

The AI Score will be integrated with companies' hiring process where the recruiters can see the AI Score of aspirants. The score will help companies filter the right candidates and recruit them.

## 4. AI Score Framework

The AI Score is designed as a comprehensive framework to evaluate a candidate's AI proficiency, ensuring a well-rounded understanding of their capabilities. This section provides a detailed breakdown of each component, the weight distribution, and how the overall score is calculated.




Fig–2: AI CERTs' AI score framework

### 4.1 Core Components: In-Depth Breakdown

The AI Score is designed as a comprehensive framework to evaluate a candidate's AI proficiency, ensuring a well-rounded understanding of their capabilities. This section provides a detailed breakdown of each component, the weight distribution, and how the overall score is calculated.

- **Certifications and Education (25%):** Measures formal learning and foundational understanding.
  - **AI CERTs Certifications:** Points are awarded based on certification tiers:
    - Foundational (50-100 points), Intermediate (101-200 points), Advanced (201-300 points), and Specialized (20-50 points).
    - The score is for one certificate. If there are more than one, the scores will accumulate. So if someone has one foundational and one intermediate, the scores will be 151 to 300 points.
  - **Academic Degrees:** Degrees in AI, data science, or related fields:
    - Bachelor's (50-100 points), Master's (100-150 points), Ph.D. (150-200 points).
  - **Online Courses & MOOCs:** Recognizes completion of reputable AI courses:
    - 10-30 points per course, up to 100 points.
    - AI CERTs has created a list of relevant courses after due research which covers the entire spectrum of AI. The evaluation will happen based on the courses.
    - The names of the courses might be different in a few cases. In such cases, the content or syllabus will be taken into account for assessment.
- **Professional Experience (30%):** Emphasizes real-world application and adaptability:
  - **Years of Experience:** Points based on duration in AI roles:
    - 0-2 years (50-100 points), 3-5 years (101-200 points), 6+ years (201-300 points).
  - **Project Complexity:** Evaluates the scale of AI projects:
    - Individual Contributor (20-50 points), Team Leader (51-100 points), Strategic Implementations (101-150 points).
  - **Sector-Specific Experience:** Adds up to 50 points for high-impact sectors.

- The rating for sectors are the following:
    - Financial, Healthcare, Retail – 50
    - Education, HR – 40
    - Manufacturing, Hospitality – 30
    - Others – 20

- **Practical Skills Assessment (20%):** Focuses on technical ability:
    - **Coding Challenges:** Assessed through platforms such as HackerRank, LeetCode, and Kaggle:
        - Beginner (10-30 points), Intermediate (31-70 points), Advanced (71-100 points).
    - **Case Studies and Simulations:** Real-world problem-solving:
        - Case Study (20-50 points), Simulation (50-100 points).
    - **Hackathon Participation:** 10-100 points based on placement.
- **Industry Contributions (15%):** Recognizes thought leadership and community engagement:
    - **Open-Source Contributions:** 10-100 points based on contribution scale.
    - **Research and Publications:** Points for publishing research:
        - Blogs (5-15 points)
        - Q&A in social platform such as LinkedIn (10-30 points)
        - Peer-Reviewed (30-70 points)
        - Conference Papers (71-100 points).
    - **Community Engagement:** 10-100 points for conference participation and mentorship.
- **Peer and Employer Feedback (10%):** Adds a qualitative dimension:
    - **Employer Ratings:** 10-60 points based on feedback.
    - **Peer Endorsements:** 10-50 points for endorsements from professionals.

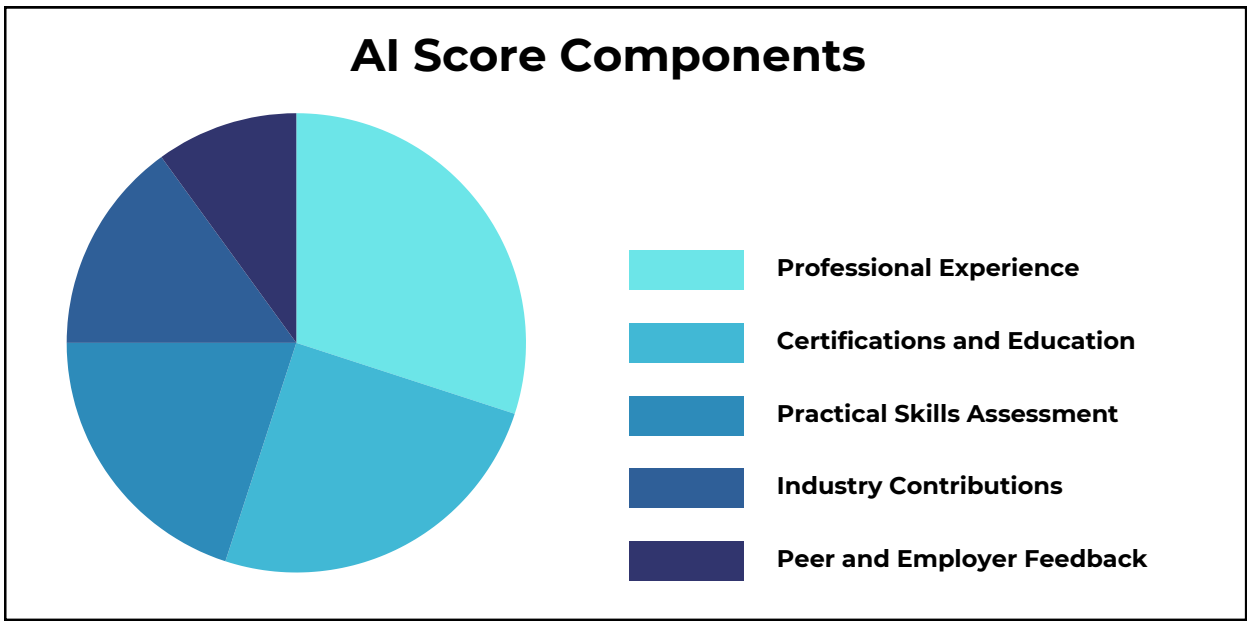



Fig – 3: Core components and weightage of AI CERTs AI Score

### 4.2 Weight Distribution: Fine-Tuning for Balance

The weight distribution is critical to ensure that the AI Score provides a balanced and holistic view of a candidate's skills:

- **Certifications and Education (25%):** Reflects theoretical knowledge.
- **Professional Experience (30%):** Highlights hands-on experience.
- **Practical Skills Assessment (20%):** Focuses on technical skills.
- **Industry Contributions (15%):** Rewards community engagement.
- **Peer and Employer Feedback (10%):** Reflects reputation and teamwork.

### 4.3 Scoring Algorithm: Weighted overall score

The AI Score is calculated using a weighted sum formula:

$$\text{AI Score} = (CE \times 0.25) + (PE \times 0.30) + (PS \times 0.20) + (IC \times 0.15) + (FE \times 0.10)$$

- **Normalization:** Scores are normalized to ensure fair representation, and the total score ranges from 300 to 900.
- **Example Calculation:** A candidate scoring 80 in Certifications (CE), 70 in Experience (PE), 85 in Skills (PS), 60 in Contributions (IC), and 75 in Feedback (FE) would get:

$$\text{AI Score} = (80 \times 0.25) + (70 \times 0.30) + (85 \times 0.20) + (60 \times 0.15) + (75 \times 0.10) = 74.5$$

### 4.4 Continuous Learning and Dynamic Updates

- **Score Adjustments:** Scores can be updated as new certifications are earned or skills are improved.
- **Reassessment Mechanism:** Candidates are encouraged to retake assessments to improve scores.
- **Validity Period:** Scores remain valid for 2 years, after which reassessment is required.

### 4.5 Sub-Scores for Industry Specialization

- **AI+ Security Sub-Score:** Emphasizes AI+ Security certifications and cybersecurity experience. (20-50 points)
- **AI+ Cloud Sub-Score:** Focuses on AI+ Cloud™ certifications and cloud deployments. (20-50 points)
- **AI+ Robotics Sub-Score:** Highlights robotics certifications and projects. (20-50 points)

## 5. Use Cases for the AI Score

The use cases of AI score is immense. The score can be used as representation of AI skill of individuals. This can be presented as part of the resume to the prospective employers. At the same time, it can be used to identify gaps, both by individuals and organizations, to plan for skill development. Let's look at the use cases in detail.

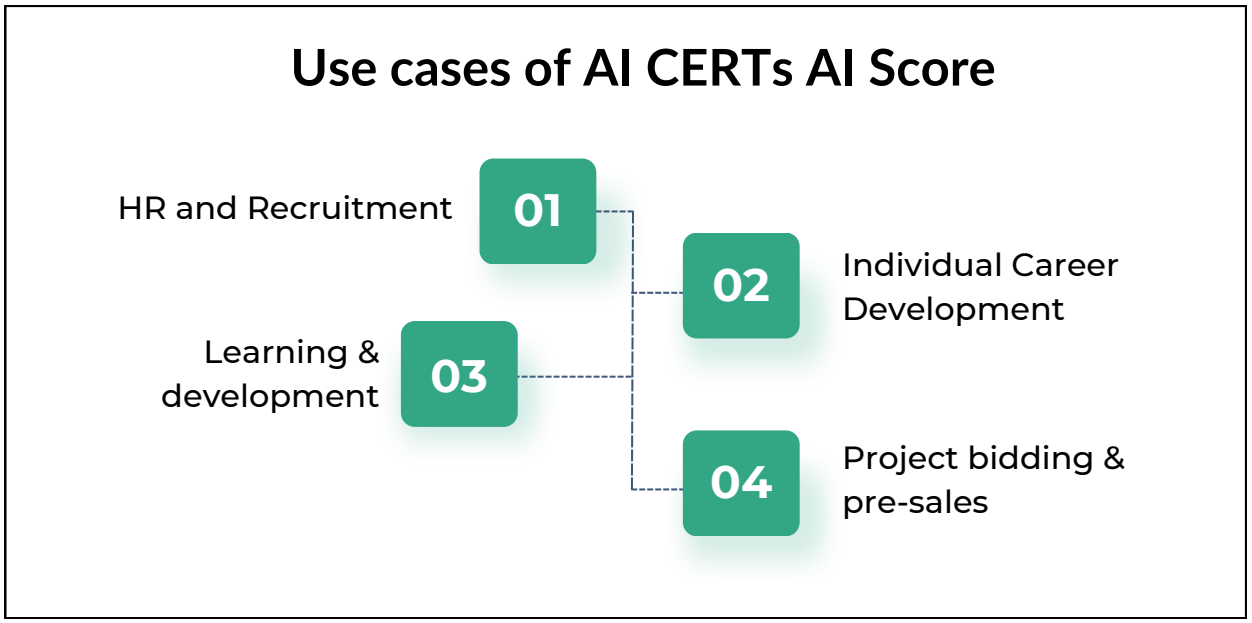



Fig – 4: Use cases of AI CERTs' AI scor

### 5.1 HR and Recruitment

- Standardizes AI skill assessments for more efficient hiring.
- Reduces bias by focusing on data-backed evaluations.
- Faster resume filtering and quicker turnaround time

### 5.2 Individual Career Development

- Provides a roadmap for skill improvement.
- Enables professionals to showcase their skills.
- Assesses the real depth of skills in AI.

### 5.3 Learning & development

- Identifying L&D needs based on AI score of teams members / employees
- Identify project specific needs for skills and human resources
- Rationalize allocation of resources based on AI scores

### 5.4 Project bidding & pre-sales

- Employee base with AI scores can be a big proposition in bidding for projects
- Understanding AI needs better to plan effectively for project RFPs

## 6. Integration with Recruitment Platforms

The AI score application can be integrated with recruitment platform of companies or human resource providers. The integration will enable them filter desired skills from a large pool of applicants. Even when there are few right fits available, companies will be able to exactly point out the gaps and plan accordingly. Integration can be done with the following ways:

- Build APIs for integration with HR software such as Workday and LinkedIn Talent Solutions.
- Enable recruiters to view AI Scores in candidate profiles, enhancing hiring efficiency.

## 7. Partnering for Standardization

The AI score cannot work in isolation. It is vital that AI CERTs' scoring mechanism is standardized in accordance with industry. This can be achieved by partnership with important industry bodies.

- Collaborate with IEEE, ISO, and leading tech employers for standardization.
- Seek endorsements from industry giants to build credibility.
- Collaborate with top colleges offering B.E. and MBA programs focused on Data Science, ML, and AI.

## 8. Continuous Improvement and Adaptation

The AI score mechanism by AI CERTs is not static in nature. It is a living entity that will keep incorporating new development in AI tools and technologies. It will create the following inbuilt mechanism to maintain its relevance and keep pace with the time.

- Analyze trends using AI to adjust weights and scoring models.
- Integrate new certifications and industry standards into the scoring framework.

## 9. Conclusion

The rapid development of Artificial Intelligence (AI) is transforming industries across the globe, creating a surge in demand for skilled professionals. However, the gap between the current supply and demand for AI talent is significant. This can be bridged only by understanding the gaps and evaluating the existing talent on a set of objective criteria.

Other players in the market are focused on their courses and the subsequent assessments related to courses. While their course based assessments are effective, it doesn't give 360 degree view of the AI score of candidates. Also, they ignore the past trainings and formal education.

By addressing these gaps and investing in competency framework, AI CERTs can position itself for success in the rapidly evolving AI landscape. Organizations too can play a crucial role by providing intermittent feedback on the efficacy of the framework.

The AI Score is a groundbreaking approach to measuring AI proficiency, offering a standardized, data-driven, and adaptable tool for assessing AI talent. By implementing this detailed framework, AI CERTs can establish a new industry standard, supporting professionals and organizations alike in navigating the complexities of AI talent acquisition and development.

## 10. References

[1] Chui, M., Hall, B., Mayhew, H., Singla, A., & Sukharevsky, A. (2022, December 6). The state of AI in 2022—and a half decade in review. McKinsey & Company. https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai-in-2022-and-a-half-decade-in-review

[2] Assessing In-Demand AI Skills: A guide for HR Managers. (n.d.). Aston Carter Staffing & Recruiting Services. https://www.astoncarter.com/en/insights/articles/assessing-ai-skills

## 11. Appendix: Detailed Breakdown of AI Score Components

- **Certifications and Education:** Scoring tiers and points allocation.
- **Professional Experience:** Points per year and complexity metrics.
- **Practical Skills Assessment:** Detailed coding challenge scores.
- **Industry Contributions:** Examples of qualifying projects.
- **Feedback and Endorsements:** Sample ratings and their point values.

The appendix provides a granular breakdown of each component within the AI Score framework, offering precise scoring criteria and examples. These details are intended to ensure transparency and understanding for users, recruiters, and other stakeholders.

## Certifications and Education

This section outlines how points are allocated based on certifications, degrees, and additional online courses.

**Scoring Breakdown:**

| Category | Points Range | Details |
|---|---|---|
| **AI CERTs Certifications** | 50 – 300 | Points vary by certification level:<br>- Foundational: 50-100 points (e.g., AI+ Everyone™).<br>- Intermediate: 101-200 points (e.g., AI+ Developer™).<br>- Advanced: 201-300 points (e.g., AI+ Engineer™, AI+ Security™ Level 3).<br>- Specialized: 20-50 points (e.g., AI+ Healthcare™). |
| **Academic Degrees** | 50 – 200 | Points depend on the highest degree obtained:<br>- Bachelor's Degree: 50-100 points.<br>- Master's Degree: 100-150 points.<br>- Ph.D.: 150-200 points. Degrees in AI, data science, or closely related fields score higher. |
| **Online Courses & MOOCs** | 10 – 100 | Points awarded per course, with a cap at 100 points:<br>- Beginner Courses: 10-20 points.<br>- Intermediate Courses: 21-30 points.<br>-Advanced Courses from institutions such as MIT and Stanford: 30 points per course. |

## Professional Experience

This section details how professional experience is scored, focusing on duration, project complexity, and sector-specific roles.

**Scoring Breakdown:**

| Category | Points Range | Details |
|---|---|---|
| **Years of Experience** | 50 – 300 | Points increase with experience:<br>- 0-2 years: 50-100 points.<br>- 3-5 years: 101-200 points.<br>- 6+ years: 201-300 points. AI leadership roles or management positions score higher within each range. |
| **Project Complexity** | 20 – 150 | Evaluates scale and impact:<br>- Individual Contributor: 20-50 points (e.g., implementing models).<br>- Team Leader: 51-100 points (e.g., leading AI teams).<br>- Strategic Implementations: 101-150 points (e.g., deploying AI solutions organization-wide). |
| **Sector-Specific Experience** | Up to 50 | Bonus points for experience in specialized sectors:<br>- Finance, Healthcare, Robotics: 20-50 points based on project impact and relevance. |

## Practical Skills Assessment

This section outlines points allocation for coding challenges, case studies, and participation in AI competitions.

**Scoring Breakdown:**

| Category | Points Range | Details |
|---|---|---|
| **Coding Challenges** | 10 – 100 | Assessed through platforms such as HackerRank, LeetCode, Kaggle:<br>- Beginner Challenges: 10-30 points.<br>- Intermediate Challenges: 31-70 points. |
| **Case Studies and Simulations** | 20 – 100 | Advanced Challenges: 71-100 points. Scores depend on problem-solving accuracy and time taken. |
| **Hackathon Participation** | 10 – 100 | Recognizes performance in AI competitions:<br>- Participation: 10-20 points.<br>- Top 10% Placement: 21-50 points.<br>- Winner or Top 3 Placement: 51-100 points. Scores depend on the scale and complexity of the hackathon. |

## Industry Contributions

This section describes how contributions to the AI community are rewarded.

**Scoring Breakdown:**

| Category | Points Range | Details |
|---|---|---|
| **Open-Source Contributions** | 10 – 100 | Points based on contribution depth and impact:<br>- Minor Contributions: 10-30 points (e.g., bug fixes).<br>- Major Contributions: 31-70 points (e.g., feature development).<br>- Project Maintainer: 71-100 points (e.g., managing an open-source project). |
| **Research and Publications** | 5 – 100 | Recognition for publishing AI-related research:<br>- Blog Articles and Medium Posts: 5-15 points.<br>- Peer-Reviewed Journals: 30-70 points.<br>- Conference Papers (e.g., NeurIPS, ICML): 71-100 points based on the conference's reputation. |
| **Community Engagement** | 10– 100 | Participation in AI events and mentoring:<br>- Participation in AI Conferences: 10-30 points.<br>- Mentorship in AI Programs: 20-50 points (e.g., guiding AI students).<br>- Keynote Speaker or Workshop Lead: 51-100 points. |

## Peer and Employer Feedback

This section details how qualitative feedback from employers and peers influences the AI Score.

**Scoring Breakdown:**

| Category | Points Range | Details |
|---|---|---|
| **Employer Ratings** | 10 – 60 | Points awarded based on ratings from employers on completed AI projects:<br>- Average Feedback: 10-20 points.<br>- Above-Average Feedback: 21-40 points.<br>- Outstanding Feedback: 41-60 points (e.g., exceeding project goals). |
| **Peer Endorsements** | 10 – 50 | Endorsements and recommendations from peers on platforms like LinkedIn:<br>- Endorsements for AI Skills: 10-20 points.<br>- Recommendations for AI Projects: 21-50 points. Higher points for endorsements from industry-recognized professionals. |

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