Certaining Artificial Intelligence Fundamentals

Exam Code- CAIF™

Certaining Artificial Intelligence Fundamentals (CAIF)™

Table of Contents

Introduction

The Certaining AI Fundamentals (CAIF) certification demonstrates a candidate's knowledge of the concepts of Artificial Intelligence and the implementation of responsible AI. This certification focuses on AI fundamentals, such as data handling, machine learning basics, management, and ethical concerns. Certaining AI Fundamentals certification is the first stepping stone for IT professionals looking to enter the Artificial Intelligence arena. CAIF offers a software, cloud, data, or IT infrastructure professional a comprehensive and easy-to-follow program about AI applications in achieving business objectives.

Core Competencies

- Basic AI/ML and generative-AI concepts (models, inference vs. training, typical use cases).
- The data lifecycle essentials and a very high-level overview of how models are evaluated (accuracy, bias, drift).
- Work out the responsible AI framework—transparency, ethics, and risk—that is applied to easy business cases.
- Identify the safety features of the AI system that may be targeted by attackers and ways to protect it during deployment.

Suitable Professionals for the CAIF Certification

- **Software Developers** – Integrate AI models into end-user applications.
- **Cloud Engineers** – Understand AI services on AWS, Azure, and GCP.
- **Data & DB Administrators** – Focus on AI/ML-driven data management.
- **IT Project Managers** – Handle projects involving AI adoption.
- **Cybersecurity Professionals** – Use AI for threat detection and automation.

Exam Information

Field	Details
Exam Code	**CAIF**
Delivery Mode	Online proctored / Authorized test centers
Exam Format	Multiple Choice (MCQ) & Multiple Response (MR)
No. of Questions	**60**
Duration	**90 minutes**
Passing Score	**60%**
Language	English
Validity	**Lifetime**

EXAMINATION DOMAINS & WEIGHTAGE

S.No.	Domain Name	Weightage
1	Introduction to AI & Machine Learning	25%
2	AI Use Cases & Applications	20%
3	Fundamentals of Generative AI	25%
4	Responsible AI & Ethics	15%
5	AI Tools & Getting Started	15%

1. INTRODUCTION TO AI & MACHINE LEARNING

This domain is an excellent starting point to comprehend an area of Artificial Intelligence and Machine Learning, and related topics. First, AI basics, practical applications, and even ethical issues are presented in the introduction. The next chapter consists of the key concepts of Machine Learning. The curriculum introduces the three common learning types—supervised, unsupervised, and reinforcement—by giving a brief description of each one and then presenting various learning algorithms such as regression, classification, and clustering. Moreover, anyone can learn Deep Learning and understand the architecture of artificial neural networks, which imitates natural intelligence. Being a novice-level program, it aims at conceptual clarity and is a stepping stone to understanding, judging, and implementing AI-based solutions in real-world business and technological settings.

1.1. Understanding Artificial Intelligence

1.2. Machine Learning Fundamentals

1.3. Common Machine Learning Algorithms (Conceptual)

1.4. Deep Learning Basics

2. AI USE CASES & APPLICATIONS

Domain 2 dives into the changes that AI brings to the systems and industries of the world. The learners get to know the core applications one by one in a very detailed way. For example, computer vision is the field where machines "see" and understand images and videos. Natural language processing allows computers to "talk" with humans in their own language. The program also unveils AI as an agent of change that is progressively diversifying across all sectors of the economy, like medical, financial, production, and retail industries. Innovation and efficiency are the main effects of the use of automation and predictive analytics in these fields. Some of the different things addressed are also possible future developments in AI-powered robots, cybersecurity, and data science. As a result, they are well-equipped with real-world knowledge on the design, implementation, and extension of AI to generate a measurable change.

2.1. Computer Vision Applications

2.2. Natural Language Processing (NLP) Applications

2.3. AI in Different Industries

2.4. Other AI Applications

3. FUNDAMENTALS OF GENERATIVE AI

This domain explores the central ideas of Generative Artificial Intelligence and its numerous applications. Students discover how Generative AI models generate new content in text, images, audio, and video. The program provides an overview of Large Language Models (LLMs) and the introductory concepts of prompt engineering to get the best results from AI. Moreover, the course includes information about foundation models, transfer learning, and fine-tuning methods that can be used to improve a model's performance on a particular task. Individuals become familiar with the causes of limitations, biases, and ethical issues in generative systems. Thus, you gain a well-rounded insight into both the enormous potential and the inevitable restrictions of this revolutionary AI tool.

3.1. What is Generative AI

3.2. Large Language Models (LLMs)

3.3. Prompt Engineering Basics

3.4. Generative AI for Images, Audio, and Video

3.5. Foundation Models and Fine-Tuning

3.6. Limitations and Challenges of Generative AI

4. RESPONSIBLE AI & ETHICS

This domain emphasizes developing an understanding of the moral principles and implementing good practices when using AI, both in the creation phase and the deployment phase. The learners discover the main structures that govern transparency, fairness, and accountability of AI systems. This domain covers issues of bias identification and reduction, privacy safeguarding, and data management aspects. The chapters examine changes in the regulatory landscape, as well as compliance demands in various regions. The module turns the spotlight on AI as an agent of change, and its effects on the job market, the respect for humans, and the trust of the public. Thus, providing the learners with the necessary tools to both create and oversee AI solutions that not only meet the ethical standards but also reflect the organizational maturity.

4.1. Principles of Responsible AI

4.2. Bias in AI Systems

4.3. Privacy and Data Protection

4.4. AI Governance and Regulation

4.5. Societal Impact of AI

5. AI TOOLS & GETTING STARTED

Through this domain, students become familiar with the fundamental instruments, platforms, and workflows that are standard in the development of Artificial Intelligence. They understand the usage of top AI platforms, open-source frameworks, and cloud-based solutions for the creation and deployment of models. The program depicts the standard AI development lifecycle through various stages of data preparation, testing, and evaluation, and also suggests the best practices for the successful launch of AI projects. The students also learn a range of career options in AI and its related areas, along with the curated learning resources for their continuous growth. Ultimately, they are equipped with the necessary skills and knowledge to embark on real-world AI projects and to follow up with specialized certifications.

5.1. Overview of AI Platforms and Tools

5.2. AI Development Workflow

5.3. Careers in AI

5.4. Learning Resources and Next Steps

5.5. Starting an AI Project