Training Course on Certified Artificial Intelligence Practitioner (CAIP)

Professional Development Training Course Outline

Category	Artificial Intelligence And Block Chain	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's rapidly evolving digital era, the demand for highly skilled artificial intelligence (AI) professionals is skyrocketing. Training Course on Certified Artificial Intelligence Practitioner (CAIP) empowers professionals with cutting-edge competencies in machine learning, deep learning, neural networks, and responsible AI. This industry-aligned program focuses on real-world applications, hands-on projects, and critical thinking required to lead intelligent automation and smart data solutions across sectors.

The CAIP certification course integrates trending technologies like Natural Language Processing (NLP), computer vision, generative AI, and reinforcement learning to deliver an immersive and impactful learning experience. Whether you're a data scientist, developer, or business strategist, this course equips you with the strategic mindset and technical expertise to drive AI transformation in your organization.

Programme Curriculum

Training Course on Certified Artificial Intelligence Practitioner (CAIP)

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drive AI transformation in your organization.

Course Objectives

1. Master AI fundamentals and machine learning concepts.
2. Understand supervised, unsupervised, and reinforcement learning models.
3. Apply deep learning frameworks such as TensorFlow and PyTorch.
4. Develop and deploy AI-powered chatbots and virtual assistants.
5. Explore real-world applications of generative AI and LLMs.
6. Implement ethical AI and bias mitigation practices.
7. Build image classification and object detection models using computer vision.
8. Analyze and process text data using NLP techniques.
9. Utilize big data tools with AI integration (e.g., Hadoop, Spark).
10. Create scalable AI solutions for enterprise deployment.
11. Understand cloud-based AI services (AWS, Azure, Google Cloud AI).
12. Prepare for global CAIP certification examination.
13. Leverage case studies for AI implementation in healthcare, fintech, retail, and education.

Target Audience

1. Data Scientists
2. Machine Learning Engineers
3. AI Researchers
4. Software Developers
5. Business Intelligence Analysts
6. IT Managers and CTOs
7. Tech Entrepreneurs
8. Students in Data Science or Computer Engineering

Course Duration: 10 days

Course Content

Module 1: Introduction to Artificial Intelligence

- Overview of AI evolution
- Key domains of AI
- AI vs ML vs DL
- AI in business and industry
- Future trends in AI
- **Case Study**: AI adoption in e-commerce

Module 2: Machine Learning Fundamentals

- Supervised vs unsupervised learning
- Regression and classification
- KNN, SVM, decision trees
- Model evaluation and accuracy
- Overfitting and underfitting
- **Case Study**: ML for credit risk analysis

Module 3: Deep Learning Essentials

- Neural network basics
- Activation functions and backpropagation

- CNN and RNN structures
- Training and tuning DL models
- Intro to TensorFlow and PyTorch
- **Case Study**: Deep learning in medical imaging

Module 4: Natural Language Processing (NLP)

- Tokenization and stemming
- Sentiment analysis and text classification
- Named entity recognition (NER)
- Transformers and BERT models
- ChatGPT and LLMs explained
- **Case Study**: NLP in customer service automation

Module 5: Computer Vision and Image Processing

- Image preprocessing techniques
- Feature extraction and edge detection
- Object recognition models
- Face detection and biometrics
- OpenCV and TensorFlow for vision tasks
- **Case Study**: Computer vision in retail inventory

Module 6: Reinforcement Learning

- RL concepts and terminology
- Q-learning and Markov Decision Processes
- Policy vs value-based methods
- AI in gaming and robotics
- Training autonomous agents
- **Case Study**: Reinforcement learning in supply chain

Module 7: Generative AI and GANs

- Understanding GAN architecture
- Applications in media, art, and content creation
- Diffusion models and deep fakes
- AI-generated text and art
- Tools for generative modeling
- **Case Study**: GANs for synthetic data generation

Module 8: Ethical AI and Responsible Innovation

- AI fairness and transparency
- Mitigating bias in data
- Explainable AI (XAI)
- Regulatory frameworks (GDPR, AI Act)
- Ethical AI frameworks
- **Case Study**: Bias in recruitment AI tools

Module 9: AI in Big Data and Cloud

- Integrating AI with Hadoop and Spark
- Cloud AI services comparison
- Data lakes and real-time processing
- Model serving and deployment on cloud

- AI-as-a-Service platforms
- **Case Study**: Predictive analytics in telecom

Module 10: AI Project Lifecycle and Deployment

- Data acquisition and preprocessing
- Model building and evaluation
- Model deployment strategies
- CI/CD pipelines for AI
- Monitoring AI models in production
- **Case Study**: AI lifecycle in fintech fraud detection

Module 11: AI for Business and Strategy

- AI ROI and business value
- Use case discovery and prioritization
- Data-driven decision making
- AI transformation roadmap
- AI in marketing and CRM
- **Case Study**: AI in supply chain optimization

Module 12: AI in Healthcare

- Predictive analytics in patient care
- AI in diagnostics and imaging
- Remote patient monitoring
- EHR analysis and insights
- Ethical challenges in medical AI
- **Case Study**: AI in COVID-19 prediction models

Module 13: AI in Finance

- Algorithmic trading and robo-advisors
- Fraud detection with ML
- Risk assessment tools
- NLP for financial documents
- Regulatory compliance automation
- **Case Study**: AI in real-time transaction monitoring

Module 14: AI in Education

- Personalized learning systems
- Intelligent tutoring systems
- Plagiarism detection tools
- AI for grading and evaluation
- Learning analytics and insights
- **Case Study**: AI in virtual classrooms

Module 15: Certification Preparation and Capstone Project

- CAIP exam structure and tips
- Hands-on project design
- Presentation and peer review
- Revision of core concepts
- Final assessment
- **Case Study**: Building a full-stack AI solution

Training Methodology

- Instructor-led online and classroom sessions
- Hands-on coding exercises and labs
- Real-world case study analysis
- AI simulation and tool walkthroughs
- Group activities and collaborative learning
- Capstone project presentation and evaluation

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com