Training Course on Cloud Artificial Intelligence Platforms (AWS, Azure, GCP)

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 technological landscape, **Cloud Artificial Intelligence Platforms** have emerged as pivotal drivers of innovation and digital transformation. This intensive training course provides a deep dive into the leading cloud AI ecosystems – **Amazon Web Services (AWS)**, **Microsoft Azure**, and **Google Cloud Platform (GCP)** – equipping participants with the essential knowledge and practical skills to leverage their cutting-edge AI services. Through hands-on labs, real-world case studies, and expert-led instruction, learners will gain proficiency in deploying, managing, and optimizing AI solutions across diverse industries. Mastering these platforms is crucial for professionals seeking to harness the power of **Machine Learning**, **Deep Learning**, **Natural Language Processing (NLP)**, and **Computer Vision** in scalable and cost-effective cloud environments.

This program is meticulously designed to cater to a wide range of professionals, from data scientists and software engineers to business analysts and IT managers, who are eager to unlock the potential of **Cloud-Based AI**. By the end of this course, participants will be able to navigate the intricacies of each platform, understand their unique strengths and weaknesses, and strategically apply them to solve complex business challenges. The curriculum emphasizes practical application, ensuring that learners can immediately contribute to their organizations' AI initiatives and stay ahead in the competitive field of **Artificial Intelligence in the Cloud**.

Programme Curriculum

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Course Duration

10 days

Course Objectives

Upon completion of this training course, participants will be able to:

1. **Compare and contrast** the core AI service offerings of AWS, Azure, and GCP.
2. **Provision and configure** AI infrastructure and services on their chosen cloud platform.
3. **Develop and deploy** machine learning models using cloud-based ML services.
4. **Implement and manage** deep learning workflows on GPU-accelerated cloud instances.
5. **Utilize** cloud-based Natural Language Processing tools for text and language analysis.
6. **Build** computer vision applications using pre-trained and custom models in the cloud.
7. **Integrate** cloud AI services with existing applications and data pipelines.
8. **Optimize** the performance and cost-efficiency of cloud AI solutions.
9. **Secure** AI workloads and data within the cloud environment.
10. **Troubleshoot** common issues encountered when working with cloud AI platforms.
11. **Understand** the ethical considerations and responsible AI practices in the cloud.
12. **Explore** advanced AI services offered by AWS, Azure, and GCP.
13. **Design and architect** scalable AI solutions on cloud platforms.

Organizational Benefits

- **Accelerated Innovation:** Faster deployment and experimentation with AI technologies.
- **Reduced Costs:** Leveraging the pay-as-you-go model of cloud services.
- **Increased Scalability:** Easily scale AI infrastructure to meet growing demands.
- **Improved Efficiency:** Streamlined AI development and deployment workflows.
- **Enhanced Data Utilization:** Ability to process and analyze large datasets effectively.
- **Access to Cutting-Edge Technology:** Utilizing the latest advancements in AI from leading providers.
- **Attracting and Retaining Talent:** Equipping teams with in-demand cloud AI skills.

- **Competitive Advantage:** Developing and deploying AI-powered solutions faster than competitors.

Target Audience

1. Data Scientists
2. Machine Learning Engineers
3. Software Developers
4. AI/ML Architects
5. Business Analysts
6. IT Managers
7. Cloud Engineers
8. Technology Consultants

Course Outline

Module 1: Introduction to Cloud AI Ecosystems

- Overview of Artificial Intelligence and its applications.
- Introduction to Cloud Computing and its benefits for AI.
- Comparison of AWS, Azure, and GCP AI platform architectures.
- Understanding core AI services offered by each platform.
- Setting up accounts and navigating the cloud consoles.

Module 2: Machine Learning on AWS (SageMaker)

- Introduction to Amazon SageMaker and its components.
- Data preparation and feature engineering using SageMaker DataWrangler.
- Building and training machine learning models with built-in algorithms.
- Hyperparameter tuning and model evaluation in SageMaker.
- Deploying and monitoring machine learning models in production.

Module 3: Machine Learning on Azure (Machine Learning Service)

- Overview of Azure Machine Learning service and its workspace.
- Data exploration and preparation using Azure Machine Learning Studio.
- Automated machine learning (AutoML) capabilities in Azure.
- Training custom machine learning models with the Azure ML SDK.
- Deploying and managing models using Azure Container Instances (ACI) and Azure Kubernetes Service (AKS).

Module 4: Machine Learning on GCP (Vertex AI)

- Introduction to Google Cloud Vertex AI platform.
- Data management and feature engineering with Vertex AI Workbench.
- Training models using Vertex AI Training and AutoML.
- Experiment tracking and model evaluation within Vertex AI.
- Deploying and serving models with Vertex AI Prediction.

Module 5: Deep Learning in the Cloud

- Fundamentals of Deep Learning and Neural Networks.
- Utilizing GPU-accelerated instances for deep learning on AWS, Azure, and GCP.
- Working with popular deep learning frameworks (TensorFlow, PyTorch, Keras) in the cloud.

- Distributed training of deep learning models.
- Deploying deep learning models for inference.

Module 6: Natural Language Processing (NLP) in the Cloud

- Introduction to NLP concepts and techniques.
- Leveraging AWS Comprehend for text analytics and sentiment analysis.
- Utilizing Azure Cognitive Services for Language for text understanding and translation.
- Exploring Google Cloud Natural Language API for text classification and entity recognition.
- Building custom NLP models using cloud ML platforms.

Module 7: Computer Vision in the Cloud

- Fundamentals of Computer Vision and image processing.
- Using Amazon Rekognition for image and video analysis.
- Leveraging Azure Cognitive Services for Vision for object detection and facial recognition.
- Exploring Google Cloud Vision AI for image labeling and optical character recognition (OCR).
- Developing custom computer vision models in the cloud.

Module 8: Integrating Cloud AI Services

- Connecting AI services with data storage and processing solutions in the cloud.
- Building AI-powered applications using cloud APIs and SDKs.
- Integrating AI workflows with serverless computing (AWS Lambda, Azure Functions, Google Cloud Functions).
- Utilizing message queues and event streams for AI pipelines.
- Orchestrating AI workflows using cloud orchestration services.

Module 9: Optimizing and Scaling Cloud AI Solutions

- Monitoring the performance of cloud AI applications.
- Cost optimization strategies for cloud AI services.
- Scaling AI infrastructure to handle increasing data and traffic.
- Implementing auto-scaling for AI deployments.
- Best practices for efficient resource utilization in the cloud.

Module 10: Security and Governance of Cloud AI

- Understanding security best practices for cloud AI environments.
- Managing access control and permissions for AI resources.
- Data encryption and compliance considerations for AI workloads.
- Monitoring and auditing AI activities in the cloud.
- Implementing responsible AI practices and ethical guidelines.

Module 11: Advanced AI Services on AWS

- Exploring Amazon Kendra for intelligent search.
- Utilizing Amazon Forecast for time series forecasting.
- Leveraging Amazon Personalize for real-time personalization.
- Introduction to AWS AI services for robotics and IoT.
- Building conversational AI applications with Amazon Lex.

Module 12: Advanced AI Services on Azure

- Exploring Azure Cognitive Search for AI-powered search capabilities.
- Utilizing Azure Time Series Insights for IoT data analysis.
- Leveraging Azure Personalizer for personalized recommendations.
- Introduction to Azure AI services for autonomous systems.
- Building intelligent bots with Azure Bot Service.

Module 13: Advanced AI Services on GCP

- Exploring Google Cloud AI Platform Prediction for high-scale model serving.
- Utilizing Google Cloud AI Platform Vizier for hyperparameter optimization.
- Leveraging Recommendations AI for personalized product recommendations.
- Introduction to Google Cloud AI services for smart analytics.
- Building conversational agents with Dialogflow.

Module 14: Troubleshooting and Best Practices for Cloud AI

- Identifying and resolving common issues in cloud AI deployments.
- Best practices for data management and preprocessing in the cloud.
- Strategies for model versioning and deployment management.
- Monitoring and logging AI application performance.
- Continuous integration and continuous deployment (CI/CD) for AI pipelines.

Module 15: Future Trends in Cloud AI

- Exploring emerging trends in AI and cloud computing.
- Understanding the impact of edge AI and federated learning.
- Discussing the future of AI platforms and their evolution.
- Opportunities for innovation with cloud AI technologies.
- Staying updated with the latest advancements in the field.

Training Methodology

This course employs a blended learning approach, combining:

- **Interactive Lectures:** Covering theoretical concepts and platform-specific details.
- **Hands-on Labs:** Practical exercises using the AWS, Azure, and GCP consoles and SDKs.
- **Case Studies:** Real-world examples of AI applications on different cloud platforms.
- **Group Discussions:** Collaborative problem-solving and knowledge sharing.
- **Quizzes and Assessments:** To reinforce learning and track progress.

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
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