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# MACHINE LEARNING ENGINEERING ON AWS

Course Code: 910028

## Gain practical experience using AWS services such as Amazon SageMaker AI and analytics tools such as Amazon EMR to develop robust, scalable, and production-ready machine learning applications

Machine Learning (ML) Engineering on Amazon Web Services (AWS) is a 3-day intermediate course designed for ML professionals seeking to learn machine learning engineering on AWS.

## What You'll Learn

- Participants learn to build, deploy, orchestrate, and operationalize ML solutions at scale through a balanced combination of theory, practical labs, and activities
- Gain experience using Amazon SageMaker AI and analytics tools such as Amazon EMR

## Who Needs to Attend

Professionals who are interested in building, deploying, and operationalizing machine learning models on AWS. This could include current and in-training machine learning engineers who might have little prior experience with AWS.

Other roles that can benefit from this training:

- DevOps Engineer
- Developer
- SysOps Engineer

## Prerequisites

We recommend that attendees of this course have the following:

- Familiarity with basic machine learning concepts
- Working knowledge of Python programming language and common data science libraries such as NumPy, Pandas, and Scikit-learn
- Basic understanding of cloud computing concepts and familiarity with AWS
- Experience with version control systems such as Git (beneficial but not required)

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| VIRTUAL CLASSROOM LIVE | $2,095 USD | 3 Day |

## Virtual Classroom Live Outline

**Day 1**

- **Module 0: Course Introduction**
- **Module 1: Introduction to Machine Learning (ML) on AWS**
  - Topic A: Introduction to ML
  - Topic B: Amazon SageMaker AI
  - Topic C: Responsible ML
- **Module 2: Analyzing Machine Learning (ML) Challenges**
  - Topic A: Evaluating ML business challenges
  - Topic B: ML training approaches
  - Topic C: ML training algorithms
- **Module 3: Data Processing for Machine Learning (ML)**
  - Topic A: Data preparation and types
  - Topic B: Exploratory data analysis
  - Topic C: AWS storage options and choosing storage
- **Module 4: Data Transformation and Feature Engineering**
  - Topic A: Handling incorrect, duplicated, and missing data
  - Topic B: Feature engineering concepts
  - Topic C: Feature selection techniques
  - Topic D: AWS data transformation services
  - **Lab 1:** Analyze and Prepare Data with Amazon SageMaker Data Wrangler and Amazon EMR
  - **Lab 2:** Data Processing Using SageMaker Processing and the SageMaker Python SDK

**Day 2**

- **Module 5: Choosing a Modeling Approach**
  - Topic A: Amazon SageMaker AI built-in algorithms

- Topic B: Selecting built-in training algorithms
- Topic C: Amazon SageMaker Autopilot
- Topic D: Model selection considerations
- Topic E: ML cost considerations

- **Module 6: Training Machine Learning (ML) Models**
  - Topic A: Model training concepts
  - Topic B: Training models in Amazon SageMaker AI
  - **Lab 3:** Training a model with Amazon SageMaker AI
- **Module 7: Evaluating and Tuning Machine Learning (ML) models**
  - Topic A: Evaluating model performance
  - Topic B: Techniques to reduce training time
  - Topic C: Hyperparameter tuning techniques
  - **Lab 4:** Model Tuning and Hyperparameter Optimization with Amazon SageMaker AI
- **Module 8: Model Deployment Strategies**
  - Topic A: Deployment considerations and target options
  - Topic B: Deployment strategies
  - Topic C: Choosing a model inference strategy
  - Topic D: Container and instance types for inference
  - **Lab 5:** Shifting Traffic A/B

**Day 3**

- **Module 9: Securing AWS Machine Learning (ML) Resources**
  - Topic A: Access control
  - Topic B: Network access controls for ML resources
  - Topic C: Security considerations for CI/CD pipelines
- **Module 10: Machine Learning Operations (MLOps) and Automated Deployment**
  - Topic A: Introduction to MLOps
  - Topic B: Automating testing in CI/CD pipelines
  - Topic C: Continuous delivery services
  - **Lab 6:** Using Amazon SageMaker Pipelines and the Amazon SageMaker Model Registry with Amazon SageMaker Studio
- **Module 11: Monitoring Model Performance and Data Quality**
  - Topic A: Detecting drift in ML models
  - Topic B: SageMaker Model Monitor
  - Topic C: Monitoring for data quality and model quality
  - Topic D: Automated remediation and troubleshooting
  - **Lab 7:** Monitoring a Model for Data Drift
- **Module 12: Course Wrap-up**

Mar 24 - 26, 2026 | 8:30 AM - 4:30 PM EDT

May 4 - 6, 2026 | 8:30 AM - 4:30 PM EDT

Jul 20 - 22, 2026 | 8:30 AM - 4:30 PM EDT

Sep 16 - 18, 2026 | 8:30 AM - 4:30 PM EDT

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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