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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**

Oct 27 - 29, 2025 | 8:30 AM - 4:30 PM EDT

Jan 12 - 14, 2026 | 8:30 AM - 4:30 PM EST

Feb 17 - 19, 2026 | 8:30 AM - 4:30 PM EST

Mar 24 - 26, 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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