



# AMA COMPUTER ACADEMY

## AI-ML



**For More Detail Contact**

 **+91 9078990958**

 **+91 7735962820**



**amacomputeracademy.com**

## OCOC AI-ML Course (60 hours)

This 60-hour course offered by Odisha Knowledge Corporation Limited (OKCL) is a comprehensive and insightful journey into the realm of artificial intelligence (AI) and machine learning (ML). The course is structured in a way that caters to individuals of various backgrounds, from beginners to those seeking a deeper understanding of the evolving technologies.

The initial part of the course introduces learners to the world of AI and ML, covering historical perspectives, definitions, and the significance of generative AI. The course then delves into the fundamentals, exploring the concept of intelligence, types of AI, and the essential components driving machine learning. Ethical considerations in AI are also discussed, emphasizing key areas such as privacy, data protection, and sustainability.

The next part in the course, "AI and the society," provides a comprehensive overview of AI's impact across various sectors. From healthcare and finance to business, marketing, education, and even entertainment, the course outlines how AI is transforming industries. Real-world applications are explored, including medical diagnostics, personalized financial advice, and AI-driven market analysis.

In the following part, "Fields of AI," the course takes a deep dive into machine learning, deep learning, natural language processing (NLP), computer vision, and cognitive computing. Learners gain insights into the key components, processes, and applications of these AI fields, with an emphasis on their benefits and drawbacks.

The course then shifts focus to "AI tools for students," providing practical insights into the use of AI tools in education. Tools like Grammarly, Google Scholar, Evernote, Coursera, Quizlet, Wolfram Alpha, and creative AI tools are explored, offering learners hands-on experience in utilizing these tools for learning and research purposes.

The subsequent topics cover foundational aspects of machine learning, understanding data and data science, and the integration of AI and ML into daily and professional life. Learners explore key concepts, types of machine learning, ethical considerations, and future trends in machine learning, as well as the role of data in AI.

A unique aspect of the course is the inclusion of "Case Studies of AI and ML," where learners will analyse the practical applications of AI and ML in major companies such as Google, Microsoft, YouTube, Uber, Amazon, Apple, Netflix, Facebook, Paytm, and Zomato. These case studies offer real-world insights into how these companies leverage AI for search algorithms, fraud detection, personalized recommendations, and more.

The course concludes by exploring "AI tools and applications," shedding light on major companies adopting AI, global tech giants integrating AI, and innovative AI tools and platforms. It wraps up with a discussion on "New age AI careers" and "Government Initiatives and Programs in AI and ML," offering participants a glimpse into the diverse career opportunities and the role of AI in government initiatives.

In summary, this course is a comprehensive and well-structured course that equips participants with a broad understanding of AI and ML, coupled with practical insights into the tools, applications, and real-world implementations across various industries. It serves as a valuable resource for anyone looking to navigate the dynamic landscape of artificial intelligence and machine learning.

## Course Syllabus:

### 1. Course Introduction

- Introduction to Artificial Intelligence and Machine Learning

### 2. Kunal's musical adventure with 'Spotify'

- Kunal's musical adventure with 'Spotify'

### 3. Fundamentals of Artificial Intelligence

- Objectives
  - Introduction to AI
    - History of AI
    - Definition and its importance
    - What is Generative AI?
    - Teaching machines to mimic human intelligence
  - Understanding the basics of AI
    - Concept of 'Intelligence'
    - Human Intelligence vs. Machine Intelligence
  - Types of AI
    - Narrow AI
    - General AI
    - Super intelligent AI
  - Components of AI
    - Understanding how machines learn from data
    - Power of 'Reasoning'
    - The ability of problem-solving
    - Discussing how machines interpret sensory information
    - Linguistic Intelligence
    - Perception and Computer Vision
    - Robotics and Motion
    - Knowledge Representation
    - Planning and Navigation
  - Ethics in AI
    - The 3 key areas of AI ethics
    - Privacy and data protection
    - Bias and discrimination
    - How to establish AI ethics?
    - Sustainability in AI
  - Recap and outcome
  - FAQs

- Summary

#### 4. AI and the society

- Objectives
  - Overview of AI and its growing impact
    - Understanding AI and its evolution
    - Importance of Human-AI interaction
    - Benefits of AI integration in various sectors
  - Human-AI interaction and collaboration
    - Balancing automation and human expertise
    - AI as a supportive tool in decision-making
    - Fostering trust and understanding between 'Humans' and 'AI'
  - AI in Healthcare
    - Medical diagnostics and imaging
    - Drug discovery and development
    - Virtual health assistants
  - AI in Finance
    - Enhancing fraud detection and risk management
    - Automated trading systems and market analysis
    - AI-Powered personalized financial advice
  - AI in Business and Marketing
    - AI-driven market analysis and trends
    - Personalization in customer engagement
    - AI-powered digital advertising
  - AI in Education
    - Personalized learning platforms
    - Ai-driven tutoring and assessment
    - Adaptive educational content
  - AI in Manufacturing
    - Automation and robotics
    - Predictive maintenance
    - Quality control and inspection
  - AI in Fashion
    - Personalized shopping experience with AI recommendations
    - AI-driven design and trend prediction
    - Supply chain optimization and inventory management
  - AI in Agriculture
    - Precision farming and crop monitoring
    - AI-based pest and disease detection
    - Smart irrigation and yield prediction
  - AI in Entertainment and Media
    - Content recommendation systems
    - AI-generated art and music
    - Virtual reality and augmented reality experiences
  - AI in Environmental Sustainability
    - Climate Modeling and prediction

- Smart grids and energy management
- Conservation and wildlife monitoring
- Recap and outcome
- Summary

## 5. Fields of AI

- Objectives
  - Introduction to Machine Learning
    - Key components and processes of Machine Learning
    - How Algorithms work in Machine Learning?
    - Applications of Machine Learning
    - Benefits and drawbacks of Machine Learning
  - Introduction to Deep Learning
    - Artificial Neural Networks
    - Structure and components of Artificial Neural Networks
    - Overview of Neural Network types
    - Benefits and drawbacks of Deep Learning
  - Introduction to Natural Language Processing (NLP)
    - Applications of NLP in Machine Learning
  - Introduction to Computer Vision
    - Technologies involved in Computer Vision
  - Introduction to Cognitive Computing
    - Benefits of Cognitive Computing
  - Summary

## 6. AI tools for students

- Objectives
  - Introduction to AI tools
    - The importance of AI tools in education
    - Role of Global Accessibility
    - A brief overview of various AI tools
    - Commonly used AI tools and frameworks
    - Other commonly used tools and frameworks
  - Exploring Grammarly
    - Using Grammarly for education purposes
    - AI generates automatic feedback in Grammarly
    - More uses of Grammarly in education
  - Introduction to Google Scholar
    - Features of Google Scholar
    - Using Google Scholar for research
    - Citation analysis and finding conference papers
    - Metrics and ranking
    - Interdisciplinary analysis
  - Introduction to Evernote
    - Features of Evernote
    - Utilizing Evernote as a learning aid
    - Getting started with Evernote

- Additional features
- Introduction to Coursera
  - Features of Coursera
  - Using Coursera to educate students
  - Using Coursera to educate professionals
  - Outcome
- Introduction to Quizlet
  - Features of Quizlet
  - Uses of Quizlet for education
  - Uses of various modes
  - Getting started with Quizlet
  - Outcome
- Introduction to Wolfram Alpha
  - Features of Wolfram Alpha
  - Use of Wolfram Alpha for students
  - Use of Wolfram Alpha for teachers
  - The attractive interface of Wolfram Alpha
  - Outcome
- Introduction to some creative AI tools
  - ChatGPT
  - DALL-E 2
  - Playgroundai.com
  - Visily.ai
- Practical Application of AI Tools
  - Virtual assistance
  - Online shopping
  - Navigation and maps
  - Language translation
  - Home device assistance
  - Various devices that make use of AI
  - Security and surveillance
  - Gaming
  - Facial recognition
- Recap and outcome
- Summary

## 7. Foundations of Machine Learning

- Objectives
  - What is Machine Learning?
  - Types of Machine Learning
    - Unsupervised Machine Learning
    - Semi-Supervised Learning
    - Reinforcement Learning
    - Transfer Learning
  - Practical Applications
    - Speech Recognition
    - Cybersecurity

- Social Media Personalization
- Feature Engineering
- Machine Learning Algorithms
  - Linear Regression
- Ethical Considerations in Machine Learning
- Future Trends in Machine Learning
- Summary

## 8. What is Data and Data Science?

- Objectives
  - Introduction to Data and Data Science
  - Understanding data and datasets
    - Different types of data
    - Real-life examples of data sets
    - Good data is important
    - AI reveals meaningful data insights
    - Getting data ready
  - Data and AI connection
    - The connection between AI, Data and Machine Learning
    - Teaching AI with data
  - The process of working with data and AI
    - Tricky parts of data-driven AI
    - Why is artificial intelligence important?
  - Summary

## 9. Use AI and ML in your daily as well as professional life

- Objectives
  - Introduction to AI and ML in daily and professional life
  - Key benefits of AI and ML in daily life
  - Usage of AI through smartphones
  - AI-based applications via smartphones
  - Virtual Assistant usage through smartphones
  - AI-based smart home appliances
  - AI and ML in transportation
  - AI usage for entertainment and information
  - AI solutions for security requirements
  - Scope of AI in personal financial planning
  - AI in healthcare monitoring and tracking
  - AI in career and skill development
  - Summary

## 10. Case Studies of AI and ML

- Objectives
  - Introduction to AI and ML case studies
    - Understanding AI and ML in real-world scenarios
    - Importance of AI and ML Use Cases
  - Google
    - Search algorithms
    - Ad placements
    - Self-Driving cars
    - Voice recognition
  - Microsoft
    - Office 365 and productivity
    - Azure: Predictive analysis and anomaly detection
    - The emergence of Microsoft Co-pilot
  - YouTube
    - Video recommendations
    - Content moderation
    - Analytics and insights
  - Uber
    - Dynamic Pricing and Ride Predictions
    - Route Optimization and Driver Support
  - Amazon
    - Product recommendations
    - Supply Chain Optimization
    - Fraud Detection and Customer Security
  - Apple
    - Siri: Natural Language Processing
    - Face ID: Biometric Authentication
    - Personalized Experiences and Product Suggestions
  - Netflix
    - Content recommendation algorithms
    - Optimizing streaming quality
    - AI-enhanced content creation
  - Facebook
    - News feed customization
    - Automated content moderation
    - AI-powered advertising targeting
  - Paytm
    - Fraud detection and prevention
    - Personalized financial recommendations
    - Customer support chatbots
  - Zomato
    - Restaurant recommendations
    - Food delivery optimization
    - Menu personalization
  - Recap and outcome
  - Summary

## 11. AI tools and applications

- Objectives
  - Overview of modern applications
  - Major companies adopting AI
    - Adobe: Generative Fill and other tools
    - Swiggy and Zomato
    - Flipkart: AI in eCommerce
    - Ola: Real-time scenario of traffic
  - Global tech giants and AI integration
    - Google: AI in search and services
    - Microsoft's Co-pilot, and Bing
    - Integration of AI in WhatsApp
  - Innovative AI tools and platforms
  - Recap and outcome
  - Summary

## 12. New age AI careers

- Objectives
  - Overview of new age AI careers
  - Current outlook on AI jobs
  - AI careers that you can pursue
  - Various industries hiring AI professionals
  - What do you need for an AI career?
  - AI careers FAQs
  - Summary

## 13. Government Initiatives and Programs in AI and ML

- Objectives
  - Discussing the Impact of AI and ML on citizen lives
  - Role of AI and ML in the Indian Government
  - Various Government schemes and initiatives in AI and ML
    - Aadhar Identification System
    - Smart cities and urban planning
    - MyGov AI portal
    - Predictive Policing
    - E-Courts and case prediction
    - COVID-19 management
  - AI Integration in IRCTC
  - AI in Agriculture
  - AI in Aviation
  - Summary

**ODISHA'S NO.1 ONLINE LEARNING ACADEMY**  
**TRUSTED BY 2500+ STUDENTS**  
**IN JUST 2 YEARS.**



**FOR ADMISSION CALL TO**  
**+91 9078990958 / 7735962820**

**Ama Computer Academy - Your Gateway to Govt Jobs & IT Careers.**