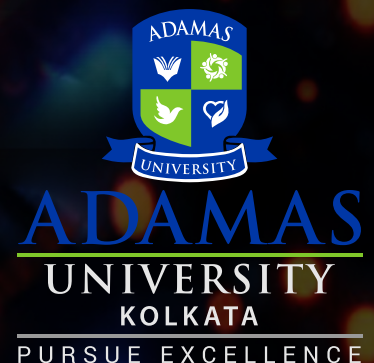


# **Ascend Adamas Certificate Course in Artificial Intelligence**

- ☑ 6 Months Course
- ☑ 120 Hrs of Classes
- ☑ Live, faculty-led, Online teaching



“

AI will unlock the unique potential of each person. It will empower them to contribute more effectively to the society.

”

**Mr. Narendra Modi**  
Prime Minister



“

You need people with expertise in AI.

”

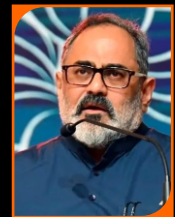
**Mrs. Nirmala Sitharaman**  
Finance Minister

“

AI will Create more and more Jobs in Workforce.

”

**Mr. Rajeev Chandrasekhar**  
MOS Skill Development & Entrepreneurship  
And Electronics & Information Technology



“

India well-positioned to become global leader in AI.

”



**Mr. Amitabh Kant**  
Ex-CEO-Niti Ayog

“

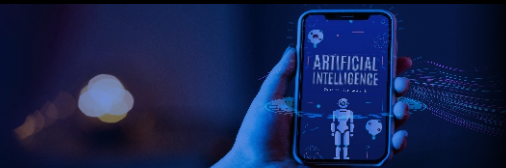
India is the world's largest IT Talent pool, with new technologies emerging everyday, it is imperative that the existing workforce is reskilled / upskilled. Indian Youth that would be entering the workforce needs to be trained in these future skills. We at Ascend Learning bring high quality future - ready courses at affordable prices.

”

**Mr. K. Sreenivasa Rao**  
Managing Director  
Awe-Inspiring Products & Services Pvt. Ltd.



## About us:



Ascend Learning is an education initiative of Awe-Inspiring Products and Services Pvt Ltd. Ascend Learning offers a bouquet of IT and non-IT courses to its students who are looking for high quality education. Ascend Learning partnered with Adamas University and RICE Education to provide students with the best course content, job-oriented skills and by using unmatched teaching infrastructure.





## What is AI & ML?

AI stands for Artificial Intelligence, and ML stands for Machine Learning. Artificial Intelligence, is a technology that enables computers and machines to simulate human intelligence and problem-solving capabilities. Artificial Intelligence (AI) is a branch of computer science that deals with creating systems or machines capable of performing tasks that typically require human intelligence. Machine Learning (ML) is a subset of AI that focuses on enabling machines to learn from data without being explicitly programmed. In summary, AI is the broader concept of creating intelligent systems, while ML is a specific approach within AI that involves teaching machines to learn from data.

## Benefits of learning AI & ML

**Learning Artificial Intelligence and Machine Learning offers numerous benefits, both professionally and personally. Some of the key benefits are:**

- **Career Opportunities:**  
AI and ML skills are in high demand across various industries, including technology, finance, healthcare, retail, manufacturing, and more. By acquiring expertise in these areas, you can unlock diverse career opportunities and command higher salaries.
- **Problem Solving:**  
AI and ML techniques can be applied to a wide range of problems, from predictive analytics to natural language processing to computer vision.
- **Innovation:**  
AI and ML are at the forefront of technological innovation. By staying updated with the latest advancements and techniques, you can contribute to cutting-edge research and develop innovative solutions that drive progress in your field.
- **Automation:**  
AI and ML enable automation of repetitive tasks, allowing organizations to streamline processes, reduce manual effort, and improve efficiency. By understanding how to leverage these technologies, you can automate tasks in your work environment, freeing up time for more strategic activities.
- **Future-Proofing:**  
As AI and ML continue to advance, they are expected to play an increasingly prominent role in shaping the future of technology and society. By investing in learning these technologies now, you can future-proof your skill set and stay ahead in a rapidly evolving job market.



## Roles available to a certified AI & ML professional

This course and certification in Artificial Intelligence (AI) and Machine Learning (ML) typically implies that an individual has a good understanding of key concepts and techniques in the field. While the depth of expertise may be limited compared to more advanced certifications or degrees, there are still several entry-level roles available to individuals with this certification. Here are some potential roles:

- **AI & ML Junior Developer/Engineer:**  
Entry-level developers or engineers work alongside experienced professionals to develop and implement AI and ML solutions. They may assist in coding, testing, and debugging algorithms and models.
- **AI & ML Research Assistant:**  
In research environments, individuals with foundation-level certification may assist researchers in conducting experiments, collecting data, and implementing basic algorithms.
- **AI & ML Support Specialist:**  
Entry-level support specialists provide assistance to users of AI and ML systems, helping them troubleshoot issues and providing basic technical support.
- **AI & ML Product Tester/QA Associate:**  
Individuals in this role are responsible for testing AI and ML products to ensure they meet quality standards. They may perform manual and automated testing, report bugs, and provide feedback to developers.
- **AI & ML Implementation Consultant:**  
Entry-level consultants help businesses integrate AI and ML solutions into their operations. They may assist with requirements gathering, solution design, and basic implementation tasks.
- **AI & ML Educator/Trainer Assistant:**  
Individuals with foundation-level certification may assist in educational programs or workshops focused on AI and ML basics. They may help develop training materials and provide support to learners.
- **AI & ML Content Creator:**  
Entry-level professionals can contribute to the creation of educational content, such as articles, tutorials, or videos, aimed at explaining AI and ML concepts to beginners.

These roles provide valuable entry points into the field of AI and ML, allowing individuals to gain practical experience and further develop their skills. As they gain more experience and expertise, they can progress to more advanced roles within the industry. Continuous learning and staying updated with developments in the field are essential for career growth.



# Companies Hiring AI & ML experts

Many companies are actively seeking AI & ML talent at various skill levels, including average-level experts. Startups:

- Many startups are leveraging AI and ML for innovative solutions across diverse domains such as healthcare, fintech, e-commerce, and cybersecurity. Various companies like these and institutions offer opportunities for AI & ML experts with varying levels of experience to contribute to impactful projects and initiatives.

Additionally, consider obtaining certifications or participating in relevant open-source projects to enhance your qualifications and stand out to potential employers.

# Who should take the course

A six-month certificate course in Artificial Intelligence (AI) and Machine Learning (ML) is typically more in-depth and geared towards individuals who are looking to acquire a comprehensive understanding of AI and ML concepts, tools, and techniques. Here are some groups of people who might benefit from such a course:

- **Professionals seeking career advancement:**  
Individuals already working in technical roles such as software engineering, data analysis, or IT who want to enhance their skill set and advance their careers by specializing in AI and ML.
- **Recent graduates:**  
Graduates with a background in computer science, engineering, mathematics, or related fields who want to gain practical skills in AI and ML to make themselves more marketable to potential employers.
- **Career changers:**  
Individuals from non-technical backgrounds who are looking to transition into AI and ML roles and need a structured program to acquire the necessary knowledge and skills.
- **AI enthusiasts with some technical background:**  
Individuals who have a strong interest in AI and ML and have some technical proficiency but want a structured curriculum to gain a deeper understanding and practical experience in these fields.
- **Individuals preparing for higher education:**  
Those planning to pursue further studies in AI and ML, such as a master's degree or PhD, who want to build a solid foundation before embarking on advanced academic studies. Overall, a six-month certificate course in AI and ML is suited for individuals who are committed to dedicating time and effort to mastering these complex subjects and are looking for a structured program that offers hands-on experience and practical skills applicable to real-world scenarios.

## Course requirements

Understanding of the fundamentals of programming, including arrays, matrices, functions, sorting, searching, pointers and knowledge of basic programming concepts such as object-oriented programming, classes and methods, polymorphism, inheritance and standard libraries

## Why choose Ascend Learning for AI & ML Course

Artificial Intelligence curriculum is created and taught by Adamas University Faculty who are experts in the field of AI ensuring world class content. Learning is through live sessions conducted by the faculty. The course has been designed to suit students coming from various backgrounds. Reading materials will be provided. Students missing a class can easily access the recordings of the missed sessions. Ascend Learning courses are job oriented, and provide students with professional skills and practical know-how for the chosen fields of work.

## Course Structure

- 6 Months Course
- 120 Hrs of Classes
- Live, Faculty-Led, Online Teaching
- Classes by University Faculty
- Course Materials
- Project Work Included

“Certificate issued by Adamas University on successful completion of Online Test after finishing the course”





## Skills you learn

Comprehensive coverage of both Artificial Intelligence (AI) and Machine Learning (ML) concepts. Emphasis on practical applications. In-depth coverage of mathematical foundations essential for understanding AI & ML algorithms. Hands-on programming experience using Python and popular libraries like NumPy, Pandas, and Matplotlib. Exploration of ethical considerations and societal implications of AI/ML technology.

## Course Modules

There are 8 modules

### 01 Introduction to AI and ML

05h

- Overview of Artificial Intelligence, Definition and goals of AI, Historical context and evolution
- Introduction to Machine Learning, Basics of machine learning, Types of machine learning (supervised, unsupervised, reinforcement)
- Applications of AI & ML in Various Fields Healthcare, finance, marketing, etc.

### 02 Basic Mathematics for AI & ML

15h

- Fundamentals of Algebra and Calculus Variables, equations, functions, Derivatives and integrals
- Linear Algebra Vectors, matrices, operations Eigenvalues and eigenvectors
- Probability and Statistics, Basic concepts, Probability distributions.

### 03 Programming Basics

20h

- Introduction to Python Variables, data types, operators Control flow (if statements, loops)
- Python Libraries for AI & ML NumPy, Pandas, Matplotlib
- Introduction to Jupyter Notebooks, Basics of using Jupyter for coding exercises

### 04 Fundamentals of AI

15h

- Overview of AI Components Agents, environments, sensors, actuators
- Problem Solving and Search Algorithms State space, heuristic functions
- Knowledge Representation Propositional and first-order logic Semantic networks

### 05 Fundamentals of Machine Learning

25h

- Introduction to Supervised Learning Regression, classification Training and testing data
- Unsupervised Learning Clustering, dimensionality reduction
- Evaluation Metrics in ML Accuracy, precision, recall, F1 score

### 06 Deep Learning Basics

20h

- Introduction to Neural Networks Perceptrons, activation functions
- Basics of Deep Learning Feedforward and backpropagation Training neural networks
- Applications of Deep Learning, Image recognition, natural language processing

### 07 Ethical and Social Implications of AI/ML

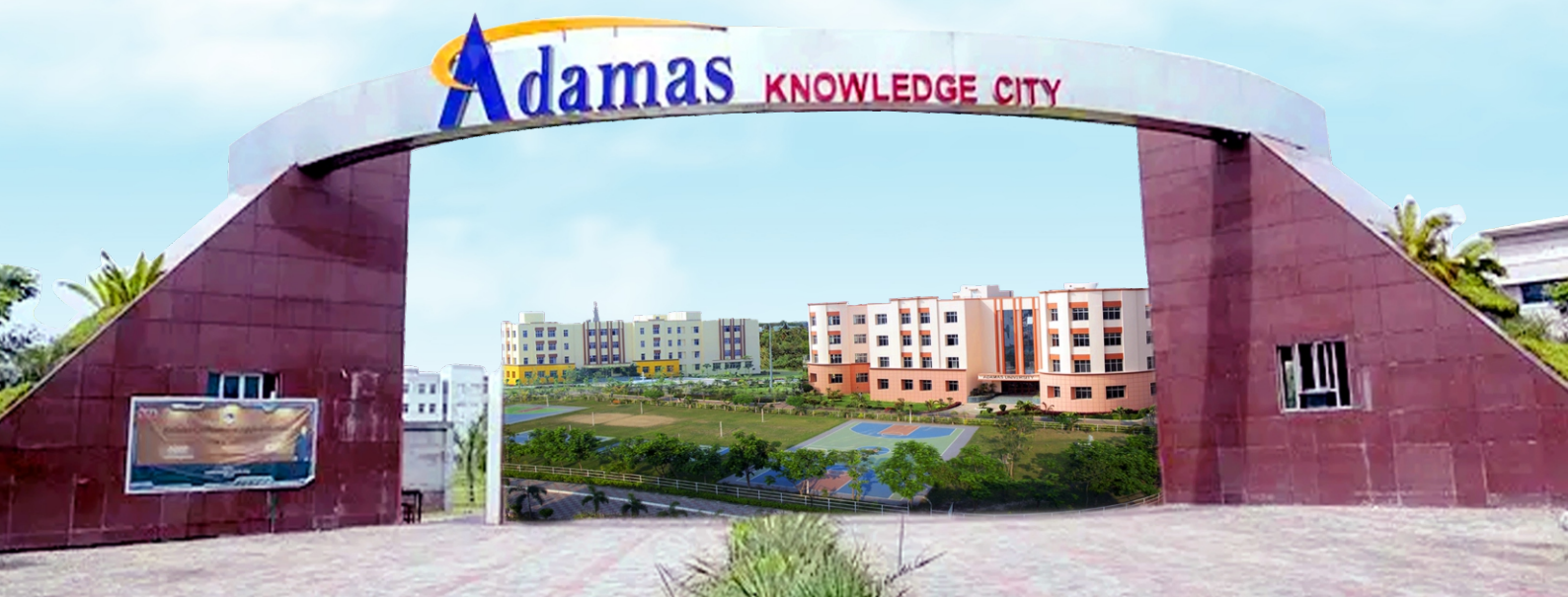
05h

- Ethical Considerations Bias in AI, transparency, accountability
- Impact on Society, Job displacement, privacy concerns

### 08 Final Project and Review

05h

- Capstone Project Apply AI & ML concepts learned throughout the course
- Review and Q&A Recap of key concepts, Addressing any remaining questions



## About Adamas Univ & CLL initiative

Adamas University, with a sprawling green campus extending over 120 acres, nestled in Barasat (13 kms away from the Subash Chandra Bose International Airport Kolkata), and in its 7th year of operation, aspires to impart finest quality education to the young minds of West Bengal, with an already established high quality research facility and a powerful team of teachers. The University has many international initiatives collaborating with the industries and educational institutes to facilitate projects, research and student exchange programs. Currently, in its 7th year, the campus has 5000+ current students and more than 2000 resident students & faculty members. The University has been established with the vision of providing quality education to students to help them become professionally competent as well as academically knowledgeable under the 10 Schools of Studies. Adamas University is established with the aim to provide a solution to all educational needs under one roof. It aims to create an environment for students that will not just arm them with the right kind of knowledge, but also develop them as well-rounded members of society. The university's Centre for Life Long Learning previously known as Centre for Professional Studies (CPS), Career Development Cell (CDC) and its schools have adopted number of capacity development and skill enhancement initiatives to prepare an industry-ready human resources. Ascend Learning partnered with Adamas University and their Center for Lifelong Learning and had developed and launched various short term courses that are affordable to students from Tier 2 and Tier 3 towns.



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