

# ARTIFICIAL INTELLIGENCE

Introduction, Applications and Implications



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NASSCOM FutureSkills Platform Partner

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## Certificate Program



## OVERVIEW: AI LANDSCAPE

We are in the “Cognitive Era”, as Artificial Intelligence (AI) is beginning to transform the way we live, work and do everything. It is already a part of our everyday life, though we may not notice it. While many are excited about it, a few are worried. As a matter of fact, nations are vying for a leadership position in AI technologies and applications.

AI is not about building smart machines to replace humans. RATHER, it is about building smarter organizations, and smart solutions that a human brain cannot comprehend. It is primarily about “Collective-Intelligence” or combining AI along with human intelligence to solve real-life problems for human empowerment.



### HIGH DEMAND

Corporations are aggressively adapting to AI wave and hence hiring and developing AI-talent.



### HUGE SUPPLY GAP

Demand for qualified AI talent far exceeds supply. That means less competition and more pay for trained-people.



### BRIGHT FUTURE

According to World Economic Forum, automation will generate 133 million new jobs by 2022 and these jobs are not going away anytime soon.

This course gives you an introduction to AI, elements of AI, their applications, case studies, business implications and the future of AI. With a solid foundation, you can build expertise to align yourself with the ever so changing world.

## BENEFITS OF THIS PROGRAM

- ✓ Demand for AI talent is exploding. Future-proof your career by developing AI skills
- ✓ Learn AI from a federation of experts with decades of experience in academia and also in various Silicon Valley industries
  - Learn by watching interviews with several experts in various sub-domains of AI-ML
  - Real-life case-studies and use-cases to give you practical insights
- ✓ Get a certificate in “AI – Introduction, Applications and Implications”





## WHO IS THIS PROGRAM FOR?



- ✓ Anyone interested in developing AI-awareness
- ✓ A student seeking employment, by building a foundation in AI
- ✓ An employee interested in re-skilling or up-skilling for a career growth
- ✓ A teacher interested in becoming a trainer in AI
- ✓ A manager wanting to unlock new opportunities or to bring AI into their products and offerings

### PREREQUISITES:

- ✓ Basic knowledge of computers
- ✓ No other pre-requisites

## WHAT WILL YOU LEARN?

Artificial Intelligence (AI) has become a foundational technology for building the next generation of applications in industries starting from healthcare to financials to retail. No industry or sector is untouched by the potential of AI algorithms and tools.

### MODULE 1 Introduction to AI

1. Natural Intelligence
2. What is Artificial Intelligence?
3. The History of AI
4. Types and Elements of AI
5. Why should you learn AI?
6. Machine Learning vs. Traditional systems



### MODULE 2 Machine Learning

1. What is Learning? Types of Learning
2. What is Machine Learning?
3. Supervised, Unsupervised, Reinforcement Learning
4. Machine Learning vs. AI/Data-Science/Statistics/Human-Learning / Classic-programming
5. Deep Learning and Neural Networks



## MODULE 3

### Natural Language Processing (NLP)

1. What is NLP?
2. Why should you learn NLP?
3. Key elements of NLP
4. Progress, challenges and evolution
5. Rule-based and ML-based NLP
6. Applications of NLP

## MODULE 4

### Computer Vision

1. Making machines "see"
2. History of computer-vision
3. Science and Technology of computer vision
4. Applications of computer vision



## MODULE 5

### Robotics and Automation

1. What are Robots? History of Robots
2. What is Robotics?
3. AI and Robotics
4. How do Robots work?
5. Progress and challenges of Robotics
6. Various applications of Robotics
7. Human-Robot Interactions, Laws of Robotics
8. Singularity Vs. Multiplicity

## MODULE 6

### Applications of AI

1. Autonomous Vehicles:  
How do they work? Evolution and adoption barriers, Implications
2. Gaming:  
Chess and AI (Deep-Blue, DeepMind, Alphazero)
3. Learning and Development
4. Other Applications:  
Agriculture, Healthcare, Customer-support, Legal, HR, Finance

## MODULE 7

## Implications and Future of AI

1. AI strategies for the leadership
2. Future evolution of AI
3. Implications of AI: Man Vs. Machine
4. Computational Ethics



## WHO WILL YOU LEARN FROM?

### PROGRAM FACULTY



**Dr. Raju Pandey** is a Professor Emeritus in the Computer Science department at the University of California at Davis, where he developed and taught graduate and undergraduate courses in programming languages, operating systems, distributed systems, Internet of Things, Wireless sensor networks, Web-based systems, and compilers.

He is also the CEO and founder of Thinking Books, a software Infrastructure and Tools company.

Dr. Pandey has a deep interest in math and computer science education and has developed novel interactive methods and tools for teaching both algorithmic and system aspects of Computer Science courses.

- Dr. Pandey's first startup, SynapSense, was a pioneering IoT company, later acquired by Panduit.
- His research and entrepreneurial interests lie in AI, Programming Languages, Blockchain, Internet of Things, Cloud, Security, and Privacy. Specifically, his interests are driven by the need to build software systems that are easier to build, analyze and deploy.
- In this regard, he has developed a novel software platform for building multi-platform AI, Blockchain, Mobile, and IoT applications. The platform includes a next-generation programming language, Ankur, that Dr. Pandey has designed and implemented. The platform will enable development of AI applications in which both algorithm-driven (deterministic) and data-driven (non-deterministic) components of AI applications can be integrated seamlessly.
- In addition, he consults extensively with companies on AI, Blockchain, IoT, Cloud, Mobile Computing, and Distributed Systems.
- He has published more than 40 papers in conferences and journals and holds over 16+ patents in software, visualization, wireless networks, data analytics, security, and control systems.
- Dr. Pandey holds a B.Tech. degree in Computer Science from IIT (Indian Institute of Technology), Kharagpur, and Ph.D. in Computer Science from the University of Texas at Austin.



## HOW WILL YOU LEARN?

- ✓ Online using desktop, laptop or mobile devices
- ✓ Learn at your own convenient time, and pace
- ✓ Video lectures delivered from a cloud LMS platform
- ✓ Quizzes are given remotely
- ✓ Hands-on projects, and industry case studies for the reinforcement of the learning



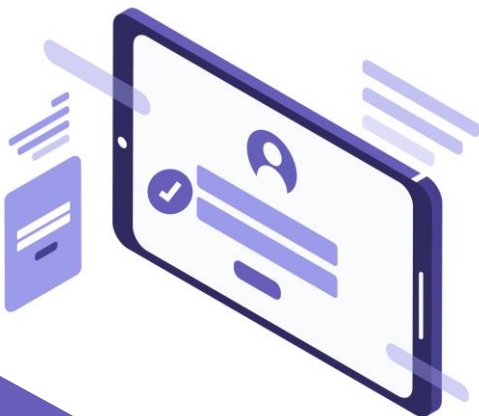
## WHAT IS THE DURATION OF THE PROGRAM?

- ✓ 6 weeks, around 5 hours per week, or a total of 30 hours
- ✓ Rolling enrolment allows you to start the course any time

## ABOUT iZen



iZen is a Talent Empowerment company, offering end-to-end solutions for skill development and employability, leveraging the power of AI and other digital technologies. The company was founded in Silicon Valley, California with a global vision to incubate innovation and to provide a platform that gives access to knowledge, skills, and advisory to empower the next generation workforce and students. iZen brings you internationally recognized standard programs, to set you apart and to future-proof your career.



## HOW DO I ENROLL IN THE COURSE?

<https://academy.iZen.ai>  
Email: [info@iZen.ai](mailto:info@iZen.ai)

