



# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

## Shri Vaishnav Institute of Information Technology

### **B.Tech. in Computer Science & Engineering with Specialization in Artificial Intelligence**

#### **About the Program**

With recent development and growth in digitalization, the computer-based solutions are getting more automatic and intelligent. Nowadays, intelligent technology and human ingenuity are applied in the core of each and every process and functions of the business to address complex challenges.

We are introducing the specialization of Artificial Intelligence in CSE branch to enable our students to expertise in deep industrial challenges with Intelligent Technologies confidently and responsibly.

AI makes intelligent machines. Recently, tech giants like Facebook, Amazon, and Google have created their own AI labs to produce robots capable of learning human behavior without any instructions. The present world is almost run by Artificial Learning. Alexa, Siri, Cortana and a numerous number of virtual assistants make our lives much faster. However, the future prospects of AI are more interesting:

1. Automated transportation will become a common thing in the future.
2. In future, humans will be able to augment themselves with robots.
3. There will be more numbers of smart cities as vehicles, phones, home appliances will be run by AI.
4. 'Home robots' will help elderly people with their day to day work.
5. Robots will take over hazardous jobs like bomb defusing, welding, etc.

The Emerging streams of AI are:

1. Computer Vision
2. Audio Processing
3. Natural Language Processing
4. Knowledge Representation
5. Machine Learning
6. Deep Learning
7. Expert Systems

#### **Need of the Program**

From Google assistant, Cortana and SIRI to self-driving cars, artificial intelligence (AI) is progressing rapidly. While science fiction often portrays AI as robots with human-like characteristics, AI can encompass anything from Google's search algorithms to IBM's Watson to autonomous weapons. The goal of introducing AI is its impact in many areas, from economics



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and law to technical topics such as verification, validity, security and control. The current state of AI is:

1. Today, just 15% of enterprises are using AI. But 31% said it is on the agenda for the next 12 months. (Source: Adobe)
2. For those enterprises already in the AI fray, top-performing companies said they are more than twice as likely as their peers to be using the technology for marketing (28% vs. 12%). Unsurprisingly, analysis of data is a key AI focus for businesses, with on-site personalization the second most commonly cited use case for AI. (Source: Adobe)
3. The next big marketing trend identified are consumer personalization, AI, and voice search and these are 75% of all AI applications. (Source: BrightEdge)
4. Forty-seven percent of digitally mature organizations, or those that have advanced digital practices, have defined AI strategy. (Source: Adobe)
5. Business leaders said they believe AI is going to be fundamental in the future. In fact, 72% termed it a “business advantage.” (Source: PwC)
6. Sixty-one percent of those who have an innovation strategy said they are using AI to identify opportunities in data that would otherwise be missed. Only 22% without a strategy said the same. (Source: Narrative Science)
7. Consumers use more AI than they realize. While only 33% think they use AI-enabled technology, 77% actually use an AI-powered service or device. (Source: Pega)
8. Thirty-eight percent of consumers said they believe AI is going to improve customer service. (Source: Pega)
9. Sixty-one percent of 6,000 people surveyed said they believe AI will make the world a better place. (Source: Arm)
10. In a survey of over 1,600 marketing professionals, 61%, regardless of company size, pointed to machine learning and AI as their company’s most significant data initiative for next year. (Source: MeMSQL)
11. The impact of AI technologies on business is projected to increase labor productivity by up to 40% and enable people to make more efficient use of their time. (Source: Accenture)
12. The largest companies—those with at least 100,000 employees—are the most likely to have an AI strategy, but only half have one. (Source: MIT Sloan Management Review)



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13. More than 80% of executives surveyed are “eyeing the peaks” and view AI as a strategic opportunity. (Source: MIT Sloan Management Review)
14. Voice assistants are being incorporated into a wide range of consumer products; nearly half of U.S. adults (46%) said they now use these applications to interact with smartphones and other devices. (Source: Pew Research Center)
15. When asked about expectations for marketing technology providers to have native AI capabilities, more than 50% of respondents said it was important or a must-have. (Source: BrightEdge)
16. One AI specialist on staff will cost a salary worth one 2017 Roll-Royce Ghost Series II, or more. With salary and company stock, AI specialists can fetch compensation of \$300,000 to \$500,000. (The New York Times)
17. According to PwC, maybe. By the 2030s, they predict that around 38% of all U.S. jobs could be replaced by AI and automation. (PwC)
18. Heliograf, The Washington Post’s AI writer, created approximately 850 stories in 2016 during the Rio Olympics and the 2016 presidential election. (The Washington Post)
19. By 2020, 57% of business buyers will depend on companies to know what they need before they ask for anything. This means having solid prediction capabilities with AI will be the key. (Salesforce)
20. Researchers predict that by as soon as 2020, 85% of customer interactions will be managed without a human. That’s only two years and some change away. (Gartner)
21. 80% of executives believe AI boosts productivity. (The Motley Fool)
22. The AI market will grow to a \$5.05 billion dollar industry by 2020. (The Motley Fool)
23. Over 16.1 million Amazon Echos and 5.9 million Google Home devices have been sold, according to data collected in June 2017. That means 7% of the population aged 12+ owns an AI-based speaker device. (Edison Research, Voicebot.ai)

### **Job Opportunities**

There are a number of roles for Artificial Intelligence Specialists, these include:

1. Research scientists (responsible for designing, undertaking and analyzing information)
2. Software Engineer (specialize in a few areas of development, such as networks, operating systems, databases or applications)



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3. C# developer (capable of handling many aspects of developing an application, including but not limited to performance, scalability, security, testing, and more.)
4. Information Security Engineers (help to safeguard organization's computer networks and systems)
5. Software development manager (playing a key role in the design, installation, testing and maintenance of software systems.)
6. Java Developer (specialized type of programmer who may collaborate with web developers and software engineers to integrate Java into business applications, software and websites.)
7. Software Analyst (studies the software application domain, prepares software requirements, and specification documents.)
8. Game Programmer (capable of making dynamic decisions, learning from the environment)
9. Robotic Scientist (specialized learning algorithm designer working with robotic tools, simulators, drones etc.)