

# **Charotar University of Science And Technology (CHARUSAT)**

## **Chandubhai S. Patel Institute of Technology (CSPIT)**

### **Department of Computer Science and Engineering (CSE)**

**B.Tech in Artificial  
Intelligence & Machine  
Learning (AI & ML )**

**INTAKE: 60**  
**Effective from:2022-23**



# Courses offered in AI & ML

Core CSE Courses	AI/ML Courses
Computer Concepts & Programming	Data Analysis and Visualization
Discrete Mathematics	Machine Learning
Mathematical Modeling for Computer Science	Neural Network and Deep Learning
Java Programming	Artificial Intelligence
Data Structures and Algorithm	Big Data Analytics
Database Management Systems	Information Retrieval
Computer Organization	Natural Language Processing
Computer Network	Text Analytics
Operating System	Advance Computing
Software Engineering	Robotics
Theory of Computation	Video and Image Processing
Design and Analysis of Algorithm	Computer Vision and Pattern Recognition
Design of Language Processor	Optimization in Machine Learning

# Artificial Intelligence and Machine Learning



## Artificial Intelligence

AI is trained final output machine which  
mimic like human brain  
Ex: Amazon Alexa

## Machine Learning

ML is a subset of AI. It is a technique to  
achieve AI.  
Ex: Spam Detection



**SUNDAR PICHAI**  
CEO, Google

AI is the main tool behind new-age innovation and discoveries like driverless cars or disease detecting algorithm



**BARACK OBAMA**  
Former President, USA

Generalized AI is worth thinking about because it stretches our imaginations and it gets us to think about our core values and issues of choice



**ELON MUSK**  
Founder & CEO, Tesla, SpaceX

Artificial Intelligence will be 'vastly smarter' than any human and would overtake us by 2025.

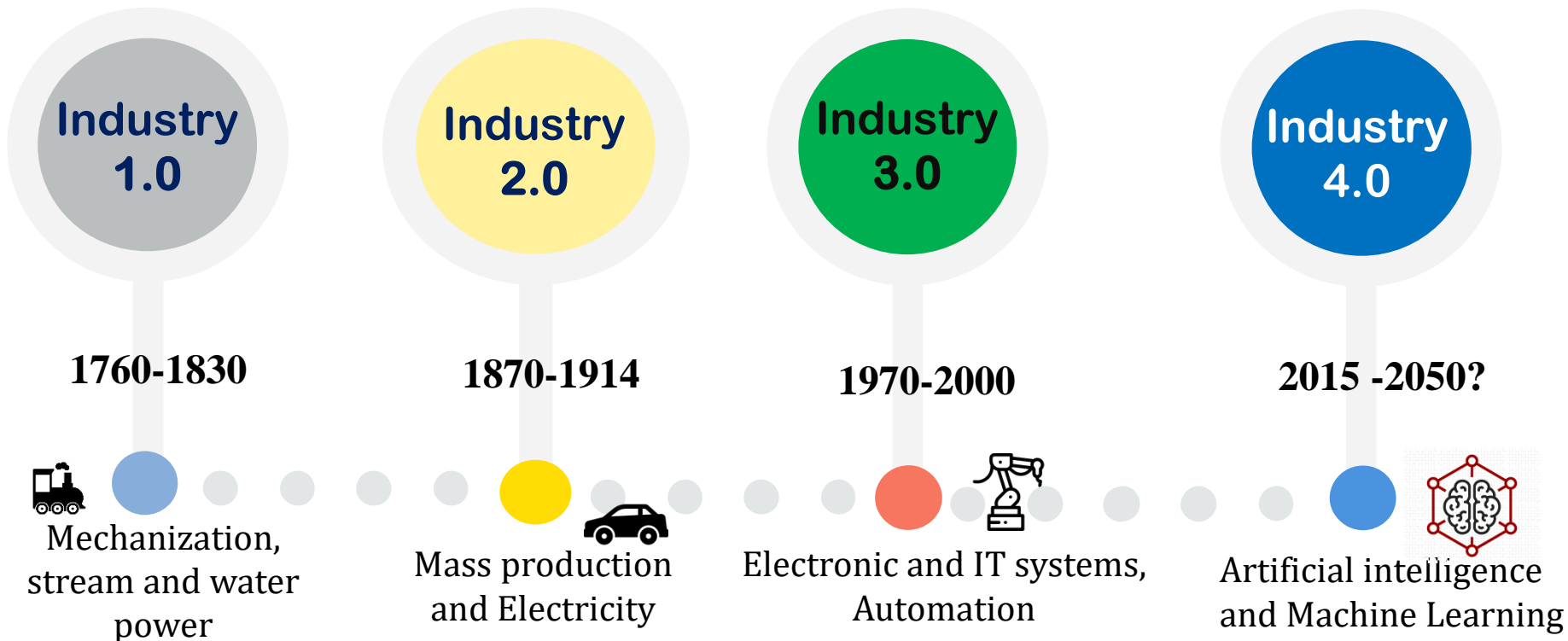


**JEFF BEZOS**  
Founder & CEO, Amazon

We are now solving problems with machine learning and AI that were...in the realm of science fiction for the last several decades

# AI & ML in Industry 4.0

Breakdowns of industrial development and the great changes in related categories





# Application Areas of AI & ML



Hospital and Medicine



Cyber Security



Game Playing



Face Recognition



Speech Recognition



Transport



Understanding  
Natural Language



Marketing & Advertising



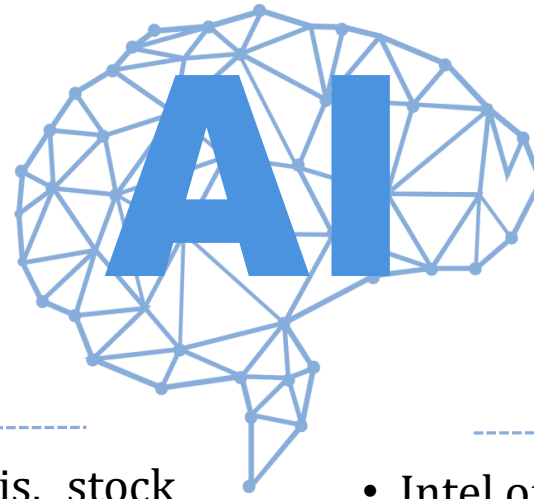
Computer Vision

# Avenues



## India

- AI covers many areas like medical diagnosis, stock trading, robot control, scientific discovery.
- If you have the B.E / M. Tech degree in AI and ML, you have the job opportunities in ISRO.
- You also have option to go in various top level microchip manufacturer companies like Intel.
- Indian institute of Biology offers research in AI and robotics
- Some AI job includes machine learning engineer, data scientist, business intelligence developer, research Scientists, and AI engineer.



## Abroad

- Intel offers job for AI and Robotics specialist.
- NASA is the best place to get job in AI in space science.
- US tech companies are prepared to spend over \$1 billion by 2020 in the process of poaching AI talent from wherever they can get it.
- UK's demand for AI skills has been growing much faster than that in the US, Canada and Australia.

# AI & ML Roles



## AI Developer

AI Engineers build, test, and deploy AI models, as well as design and maintain the underlying AI systems.



## AI Architect

AI architects create and maintain architecture using leading AI technology frameworks.



## ML Engineer

Machine Learning engineers are involved in developing ML models that tie back to business needs.



## Data Analyst

Data analysts explore data to glean information for questions posed by businesses using machine learning as a tool.

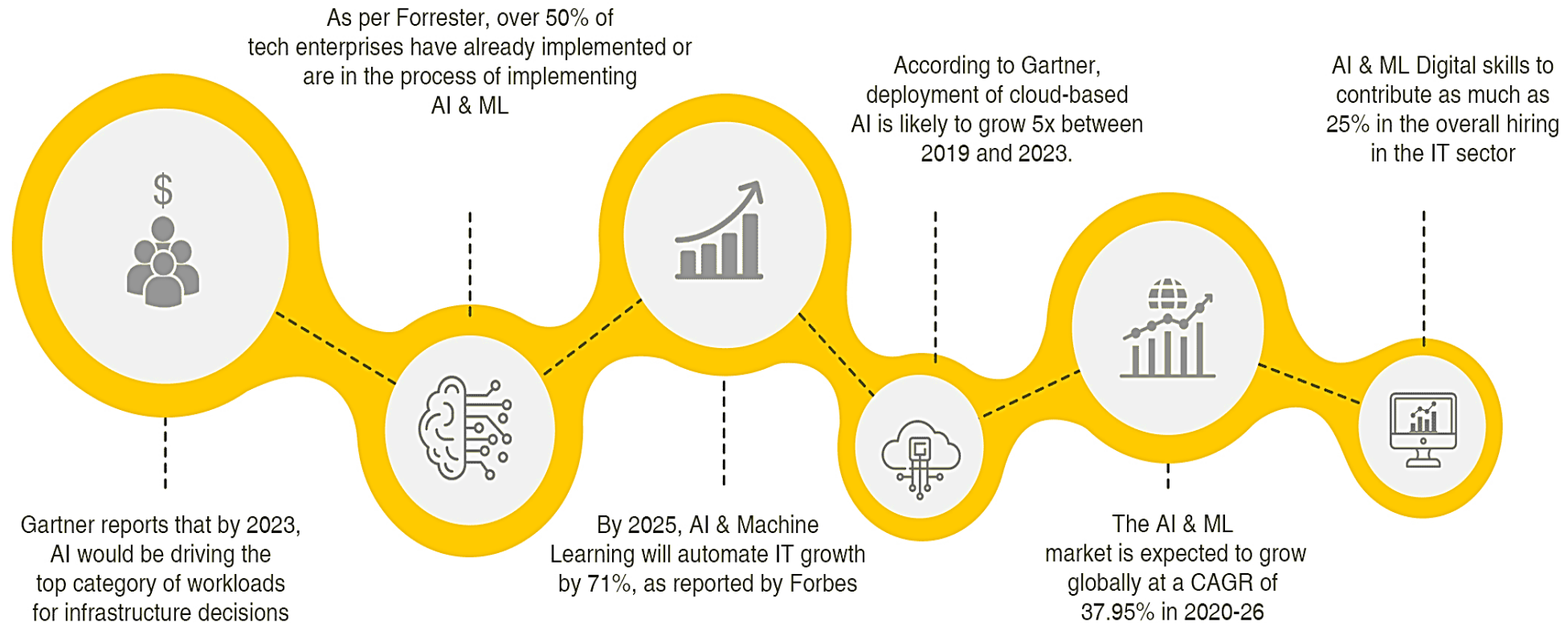


## Data Scientist

Applies quantitative techniques from machine / deep learning toward the solution of important business problems.



# Forecasting the Need of AI & ML

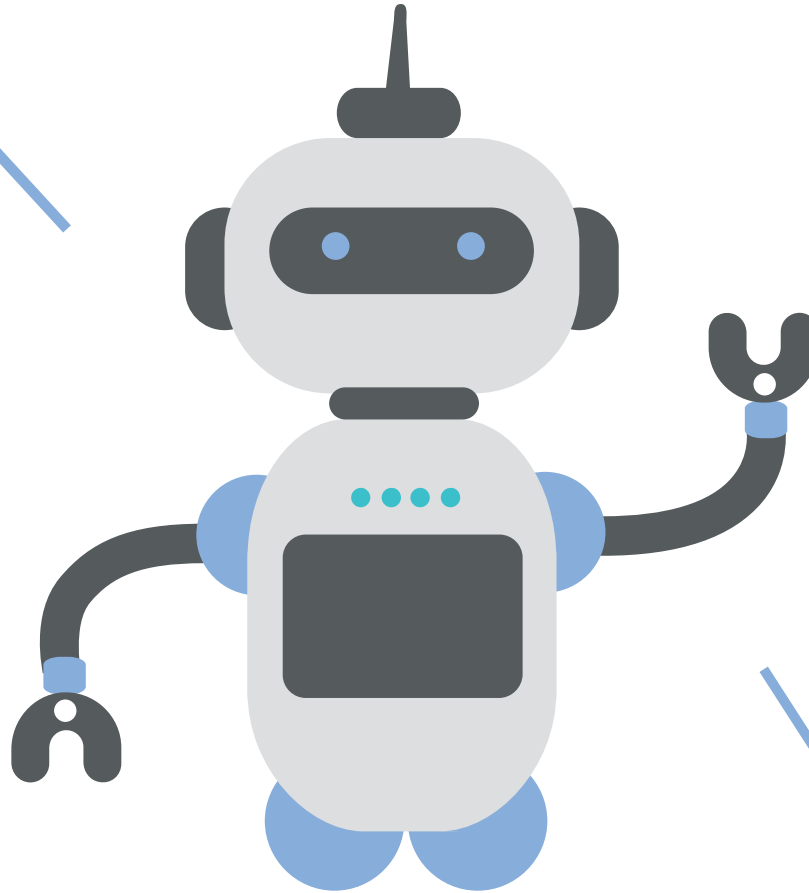


# Major Organizations of AI & ML



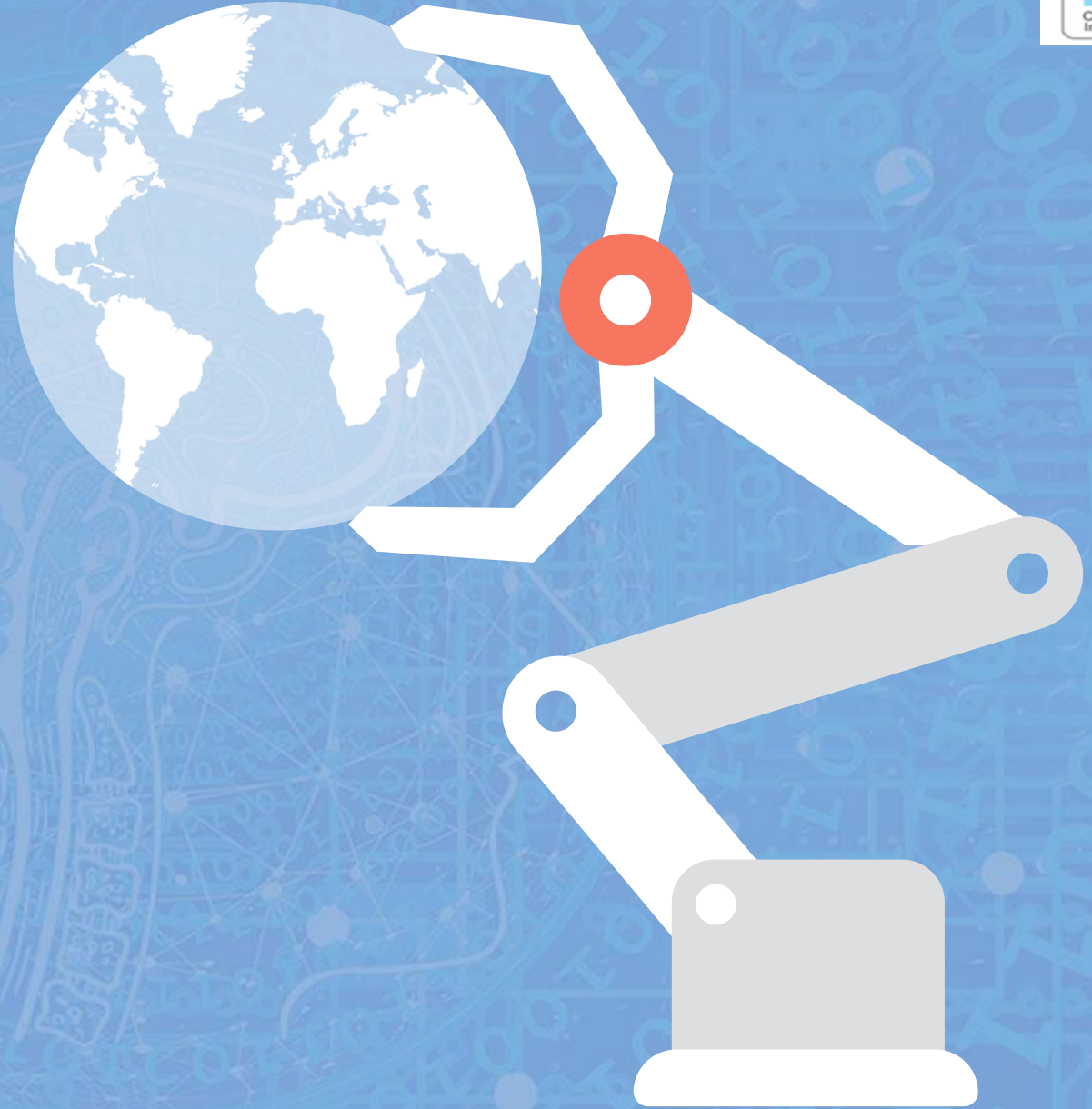
# AI & ML to drive growth of Start ups

- **Startups ecosystem**, has been nourished with the advent of technology, and has given rise to more evolved business processes.
- These days **Logistics, accounts, marketing and team performance & HR** have all been supported by AI technology.



- With the rising technologies like AI, IoT and ML, its interesting to watch the **changing face of Indian SMEs and startups**.

# THANK YOU



For more details

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