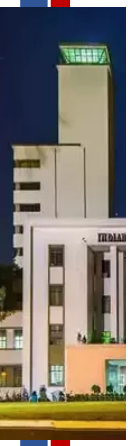
Evolution of AI: A Timeline of Significant Milestones



Artificial Intelligence

- **1943** — ANN (McCulloch-Pitts)
- **1950** — Turing Test (Imitation Game); I, Robot (Isaac Asimov); 3 Robot Principles
- **1951** — Chess Play Program (Claude Shannon)
- **1955** — Checkers Play Program (Samuel)
- **1956** — Dartmouth Summer Research Project on AI (McCarthy-Minsky-Rochester-Shannon)
- **1959** — MIT AI Lab founded
- **1961** — General Motors Automated Assembly Line
- **1965** — MIT introduces NLP-based Chatbot ELIZA (Joseph Weizenbaum)
- **1969** — Shaky Mobile Robot (Stanford Research Lab)
- **1974** — Autonomous Vehicle Test Project (Stanford AI Lab)
- **1980** — LISP – Expert System (Edward Feigenbaum)

1987–1993 : AI Winter (LISP Market Collapse)

Machine Learning

- **1989** — ALVINN - Neural Network Autonomous Vehicle (CMU)
- **1997** — IBM DeepBlue Chess Engine beats Garry Kasparov
- **1999** — SONY AIBO (Dog like Fast Running Robot)
- **2000** — Robot with Emotional Intelligence (MIT AI Lab)
- **2005** — DARPA Grand Challenge on Autonomous Vehicle
- **2008** — Google Speech-to-Search iPhone App
- **2009** — Google Autonomous Vehicle Test Drive
- **2010** — QUILL Automatic Report Writer
- **2011** — IBM Jeopardy Machine beats Quiz Champion; Virtual Voice Assistant (Microsoft Cortana, Apple Siri)

Natural Language Processing

Deep Learning

- **2012** — Google Brain + Stanford (*75% Accuracy in Youtube CAT Identification*)
- **2014** — Amazon ALEXA; Facebook DeepFace (*NearHuman Accuracy 97.5%*)
- **2015** — TensorFlow Open-sourced (Google); OpenAI $1 Billion Fund (Elon Mask)

Reinforcement Learning

- **2016** — Deepmind AlphaGo (*SuperHuman GamePlay*); UBER starts Self-driving Car Service at Arizona
- **2017** — Transformer Models – LLM; Google BERT, Generative AI

Large Language Models (LLM)

- **2020–21** — Deepmind Alphafold (Protein Structure Prediction)
- **2022** — ChatGPT by OpenAI
- **2023** — GPT-4 based LLM (Google BARD, OpenAI DALL-E)

IIT KHARAGPUR