

AI Foundations, Practice, and Leadership



February 2026

AI is reshaping every industry



The demand for AI-literate professionals far outstrips supply

\$407B



Global AI market
size by 2027

*Source

97M



New AI-related jobs
by 2025 (WEF)

*Source

72%



Of organisations plan
to adopt AI (McKinsey)

*Source

#1



AI Specialist is the
fastest-growing job role

*Source

The Gap

Most AI education is either too technical (requiring computer science backgrounds) or too superficial (buzzwords without substance). There is a critical need for a rigorous yet accessible programme that bridges this gap for lifelong learners at any stage of their career.



AI Fundamentals



AI in Practice



AI in Society

Three courses. Twenty modules. One mission.

Demystification → Mechanics → Implications

Course 1



AI Fundamentals

Core Concepts and Principles

Modules 1–6 | 36 sections

Demystify AI terminology and understand the mathematical and logical frameworks that allow machines to learn.

- ✓ Defining AI
- ✓ Data as fuel
- ✓ Supervised learning
- ✓ Unsupervised learning
- ✓ Reinforcement learning
- ✓ Explainability

Course 2



AI in Practice

Machine Learning and Neural Networks

Modules 7–14 | 51 sections

Dive into the architectures driving the current AI boom — Deep Learning, Transformers, and Generative AI.

- ✓ Neural networks
- ✓ Computer vision
- ✓ NLP
- ✓ Transformers
- ✓ LLMs
- ✓ Generative AI
- ✓ Prompt engineering
- ✓ Modern AI stack

Course 3



AI in Society

Ethics, Leadership & the Road Ahead

Modules 15–20 | 37 sections

Apply technical knowledge to real-world scenarios and understand the societal risks and responsibilities.

- ✓ Bias & fairness
- ✓ AI safety
- ✓ Workforce impact
- ✓ Healthcare case study
- ✓ Business case study
- ✓ Regulation & AGI

Sathish Jeyakumar

AI Subject Matter Expert and Course Instructor



- Over 20 years of experience in technology and enterprise architecture at organisations including Accenture and Emirates, with a focus on Predictive AI and customer experience transformation.
- Guest speaker, presenter, and hackathon judge at institutions including UC Berkeley, Carnegie Mellon, Menlo College, Hult International Business School, Heriot-Watt University, Bharathiyar University and Nehru college.
- Currently Founder and CEO of Veehive, a generative AI platform company. Previously Co-Founder and CTO of Hubun and Mindandmom

"If it can't be explained simply, it hasn't been understood well enough."

Teaching Philosophy

Accessible

Complex topics made accessible for lifelong learners. No prerequisites. If it can't be explained simply, it hasn't been understood well enough.

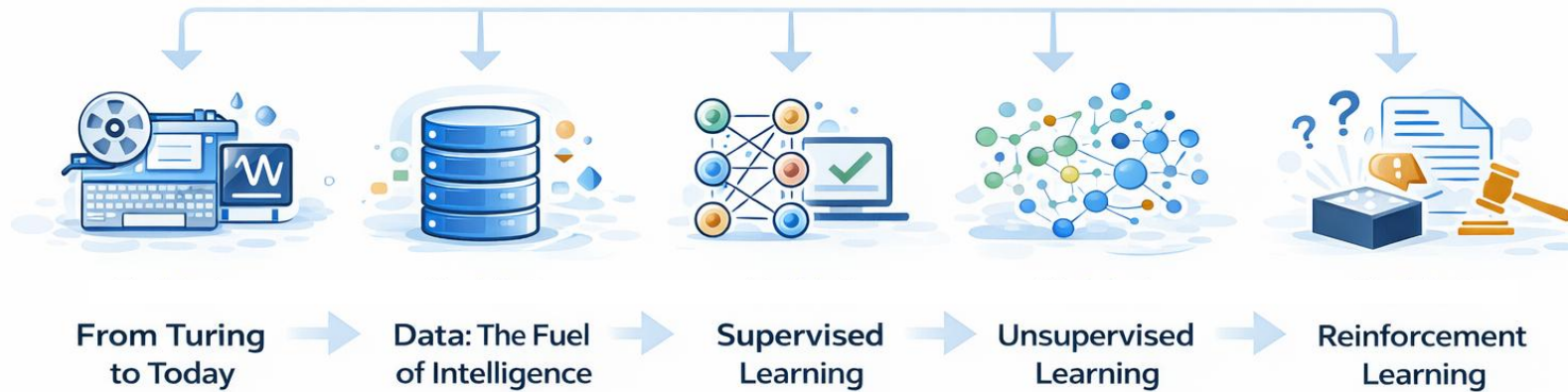
Practical

Every theory grounded in real-world examples. IBM Watson's sector challenges, ImageNet's revolution — stories that stick.



AI Fundamentals

Goal: Demystify AI terminology and understand core mathematical and logical frameworks that enable machines to learn.



AI Fundamentals

Core Concepts and Principles | Modules 1–6 | 36 sections

Goal: Demystify AI terminology and build foundational understanding of the mathematical and logical frameworks that enable machines to learn. Learners leave this course able to separate hype from reality.

Module 1 (6 sections)

Defining AI: From Turing to Today

What AI is, its history, ANI/AGI/ASI, and why it's math not magic

Module 2 (6 sections)

Data: The Fuel of Intelligence

Structured vs unstructured data, pipelines, quality, the 80/20 rule

Module 3 (6 sections)

Machine Learning 101: Supervised Learning

Classification, regression, training sets, overfitting and underfitting

Module 4 (6 sections)

Machine Learning 102: Unsupervised Learning

Clustering, association rules, dimensionality reduction

Module 5 (6 sections)

Reinforcement Learning: The Pavlovian Approach

Agent-environment framework, exploration vs exploitation, AlphaGo

Module 6 (6 sections)

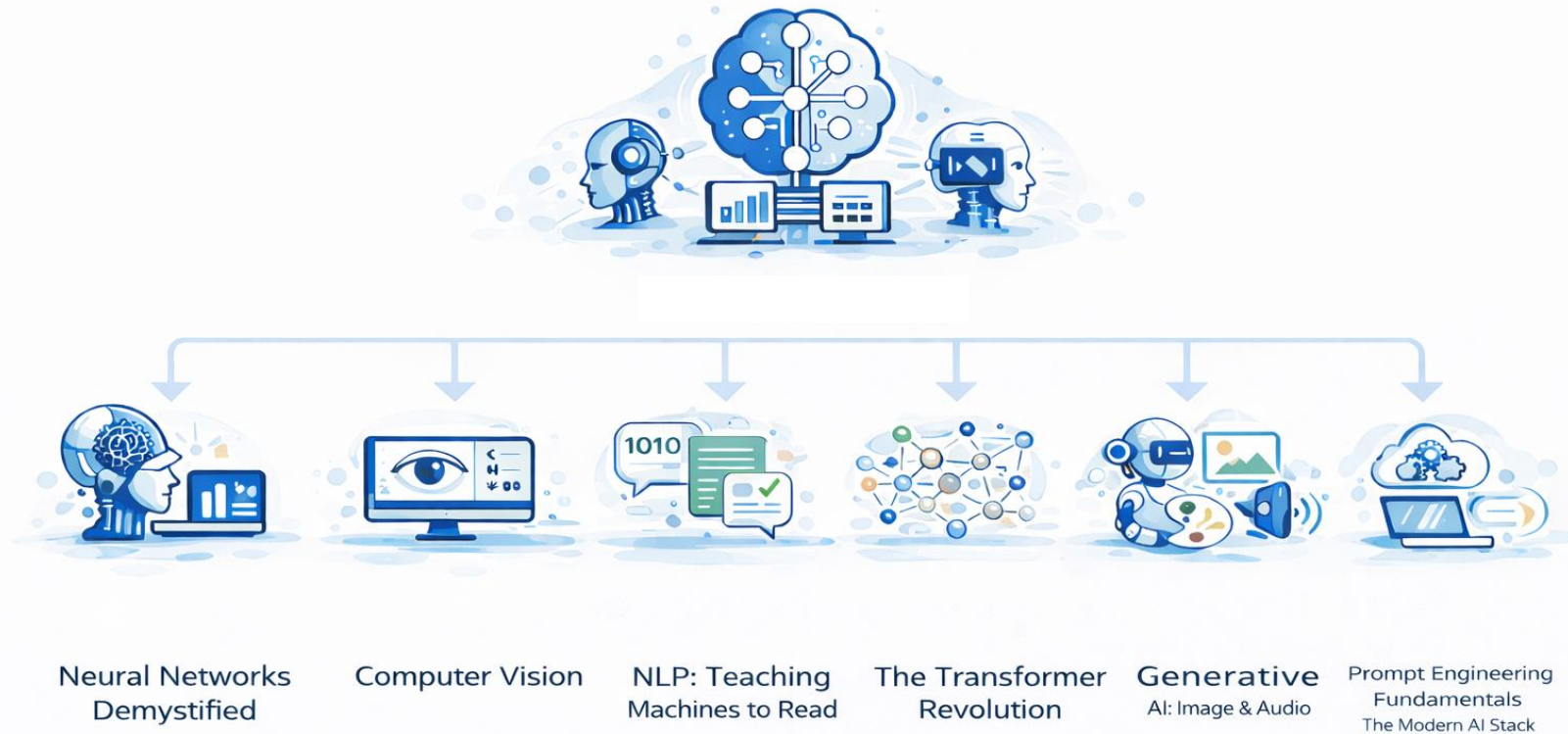
The 'Black Box' Problem & Explainability

XAI techniques, accuracy vs interpretability, trust in AI



AI in Practice

Goal: Dive into specific architectures driving today's AI boom—Deep Learn, Transformers, LLMs, and Generative AI.



AI in Practice

Machine Learning and Neural Networks | Modules 7–14 | 51 sections

Goal: Dive into the specific architectures driving the current AI boom — Deep Learning, Transformers, LLMs, and Generative AI. Learners gain practical understanding of how modern AI systems work.

Module 7 (7 sections)

Neural Networks Demystified

Neurons, layers, forward propagation, backpropagation, gradient descent

Module 9 (6 sections)

NLP: Teaching Machines to Read

Language challenges, bag of words, word embeddings, sentiment analysis

Module 11 (7 sections)

Large Language Models (LLMs)

Parameters, pre-training, fine-tuning, RLHF, hallucinations

Module 13 (6 sections)

Prompt Engineering Fundamentals

RCTCO framework, zero/few-shot prompting, chain-of-thought

Module 8 (6 sections)

Computer Vision: Teaching Machines to See

Pixels as data, CNNs, pooling, face recognition, medical imaging

Module 10 (6 sections)

The Transformer Revolution

Attention mechanism, parallel processing, 'Attention Is All You Need'

Module 12 (6 sections)

Generative AI: Image & Audio

GANs, diffusion models, DALL-E, voice cloning, video generation

Module 14 (7 sections)

The Modern AI Stack

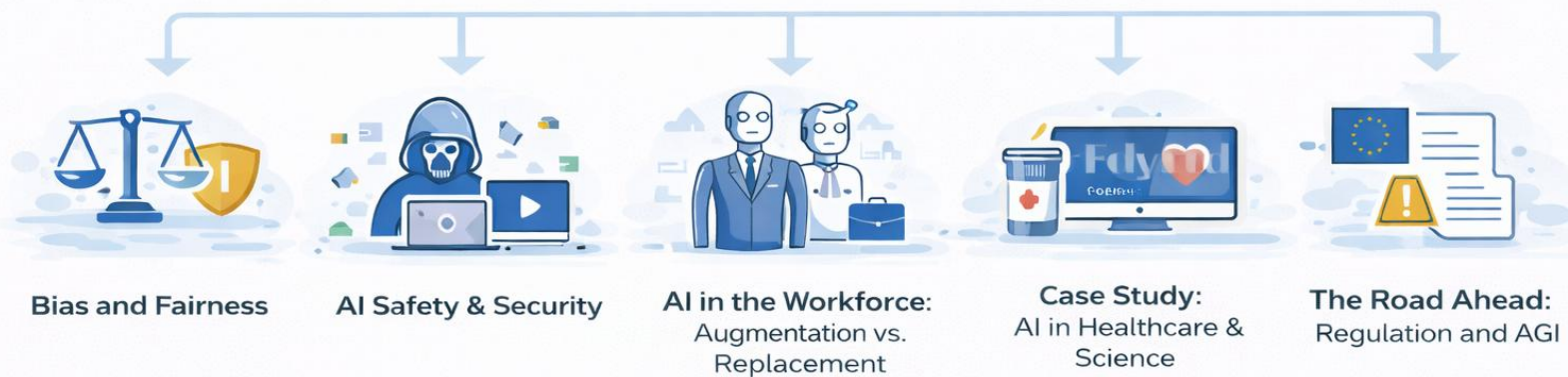
GPUs, cloud platforms, Hugging Face, RAG, AI Agents, MLOps





AI in Society

Goal: Apply technical knowledge to real-world scenarios and understand the societal risks, ethical responsibilities, and career implications of AI adoption.



AI in Society

Ethics, Leadership, and the Road Ahead | Modules 15–20 | 37 sections

Goal: Apply technical knowledge to real-world scenarios and understand the societal risks, ethical responsibilities, and career implications of AI adoption.

Module 15 (6 sections)

Bias and Fairness

How bias enters AI, types of bias, case studies, detection and mitigation

Module 16 (6 sections)

AI Safety & Security

Prompt injection, data poisoning, adversarial examples, deepfakes, privacy

Module 17 (6 sections)

AI in the Workforce: Augmentation vs. Replacement

Job risk analysis, new jobs created by AI, future-proofing careers

Module 18 (6 sections)

Case Study: AI in Healthcare & Science

AlphaFold, drug discovery, medical imaging, personalized medicine

Module 19 (6 sections)

Case Study: AI in Business & Finance

Algorithmic trading, fraud detection, recommendation engines, RPA

Module 20 (7 sections)

The Road Ahead: Regulation and AGI

EU AI Act, global approaches, alignment problem, AGI debate

Capstone: Learners complete a hands-on project applying AI concepts to a real-world scenario, assessed by industry practitioners.

How Learners Engage

A structured, multi-modal approach designed for real retention



How learners engage

A structured, multi-modal approach designed for real retention



20-Minute Video Modules

Each module is a focused, instructor-led video with visual cues, animations, and real-world examples. Conversational tone designed for engagement.



10 Quiz Questions Per Module

200 total assessment questions across the programme. Immediate feedback reinforces learning and identifies gaps.



Practical Exercises

Post-module activities including hands-on exercises, reflection prompts, 'Learn More' resources, and discussion questions.



Capstone Project

An applied project where learners demonstrate mastery by solving a real-world problem using AI concepts from all three courses.



Total duration: 6.5–7 hours | 200 quiz questions | 20 practical exercises | 1 capstone project

A professional certificate from HP and edX. The certificate is white with a light gray background. It features the HP logo in the top right corner and the edX logo in the bottom left corner. The text on the certificate reads: "Professional Certificate" in a large, bold, black font. Below this, it says "This is to certify that" in a smaller font. The name "Emily Miller" is written in a large, bold, black font. Below the name, it says "successfully completed all courses and received passing grades for a Professional Certificate in" in a smaller font. The program name "AI Foundations, Practice & Leadership" is written in a large, bold, black font. Below the program name, it says "a program offered by HP, in collaboration with edX." in a smaller font. At the bottom, there are two signatures: Mayank Dhingra, Senior Education Business Leader, and David McQuarrie, Chief Commercial Officer. The certificate also includes a "VALID CERTIFICATE ID" and the date "Issued August 2023".

- ✓ **Course 1 Certificate:** Complete Modules 1–6
- ✓ **Course 2 Certificate:** Complete Modules 7–14
- ✓ **Course 3 Certificate:** Complete Modules 15–20
- ✓ **Program Certificate:** Complete all three courses

- ✓ AI literacy across all dimensions
- ✓ Ability to evaluate AI claims critically
- ✓ Understanding of modern AI architectures

Built for institutional partnerships

A flexible deployment model for government, K12 & higher education and lifelong learning providers



Government & Public Sector

- Enable AI literacy at scale—for civil servants, public services, and national initiatives—supporting workforce readiness and digital transformation objectives.
- Suitable for central rollouts or agency-by-agency adoption.



K–12 & Higher Education

- Embed the program into curriculum as a module, elective, or credit-bearing pathway—with flexible pacing for classrooms, cohorts, or blended delivery.
- Includes assessment-ready structure to fit academic requirements.



Enterprise + NGO

- Deploy as an upskilling program for employees or communities—customizable by sector, with options for cohort facilitation and self-paced learning.
- Designed for scalable delivery across distributed learners.

What Sets This Programme Apart

✓ Trusted reach:

HP credibility & edX distribution

✓ Broad accessibility:

Designed for lifelong learners
No prerequisites: truly accessible

✓ Structured & assessed:

124 sections with built-in checks
and professional certification

✓ Flexible deployment:

Classroom, cohort, workforce, or
national rollout

Thank You

Let's shape the future of AI education together.

