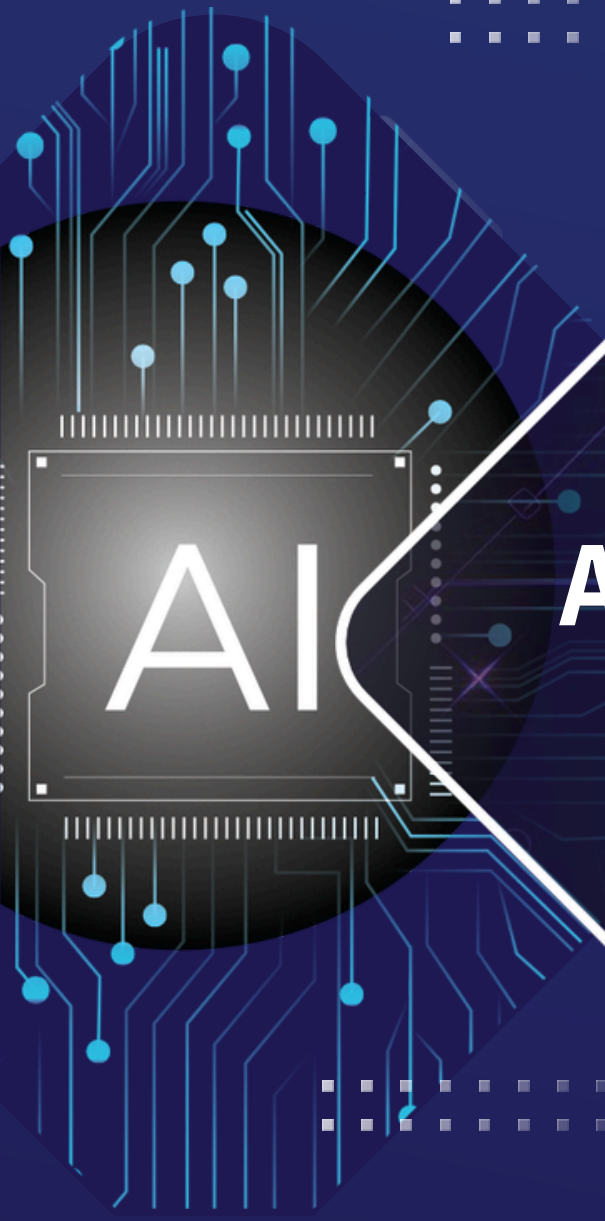
CRAW
ACADEMY



1 Year Diploma in Artificial Intelligence (AI) and Machine Learning

Explore the World of AI

This program builds complete, industry-ready AI engineers through a structured, progressive curriculum. Students advance from foundational data engineering skills to building and deploying sophisticated AI systems.

1 YEAR DIPLOMA IN ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

This program builds complete, industry-ready AI engineers through a structured, progressive curriculum. Students advance from foundational data engineering skills to building and deploying sophisticated AI systems.

₹15–25 LPA PER ANNUM

Average Salary after completion

$375 BILLION

Global AI Market Valuation

2.3 MILLION AI JOBS (BY 2027)

Expected Job Openings

01

CURRICULUM OVERVIEW

Learn key AI and ML concepts, including supervised learning, unsupervised learning, neural networks, natural language processing, and more.

02

TOOLS & TECHNOLOGIES

Master cutting-edge tools such as Python, TensorFlow, Keras, and PyTorch, critical for developing AI and ML solutions.

03

HANDS-ON PROJECTS

Gain experience with real-world projects, including predictive models, AI chatbots, and autonomous systems.

04

INDUSTRY DEMAND

Be job-ready in one of the fastest-growing industries, with demand from sectors like healthcare, finance, robotics, and autonomous

PROGRAM HIGHLIGHTS

Our AI and ML diploma offers:

- Expert faculty with industry experience 100+
- Hours of guided learning
- Flexible learning options (online/offline)
- Dedicated placement assistance
- Join us to kickstart your career in Artificial Intelligence and Machine Learning.

COURSE CONTENT

— SQL & Database Systems

1. Introduction to Databases

- What is a Database? — Types (Relational vs Non-Relational)
- RDBMS Concepts and MySQL Architecture
- Tables, Rows, Columns — Data Relationships (1–1, 1–M, M–M)
- Entity-Relationship (ER) Model, Primary Key & Foreign Key

2. SQL Fundamentals — DDL & DML

- Commands: CREATE, ALTER, DROPDDL
- Commands: INSERT, UPDATE, DELETEDML
- Constraints: NOT NULL, UNIQUE, PRIMARY KEY, FOREIGN KEY, CHECK, DEFAULT

3. Data Query Language (DQL)

- SELECT, WHERE, ORDER BY, DISTINCT, LIMIT
- Pattern Matching: LIKE, IN, BETWEEN
- Aggregate Functions: COUNT, SUM, AVG, MIN, MAX
- String Functions: CONCAT, LENGTH, SUBSTRING, REPLACE
- Date Functions: NOW(), CURDATE(), DATE_FORMAT
- Math Functions: ROUND, CEIL, FLOOR

4. Data Grouping & Conditional Logic

- Clause : GROUP BY, HAVING
- CASE Statements for conditional query logic

5. Advanced SQL

- Joins: INNER, LEFT, RIGHT, FULL OUTER, SELF JOIN
- Subqueries (Nested Queries), Views (Virtual Tables)
- CTEs — Common Table Expressions
- Window Functions: ROW_NUMBER(), RANK(), DENSE_RANK(), PARTITION BY

6. Database Automation

- Stored Procedures & Stored Functions
- Triggers — automated event-driven logic
- Cursors — row-by-row data processing

— Python Programming for Data Science

1. Programming Fundamentals

- What is Programming? Compiler vs Interpreter
- Algorithm Design, Flowcharts & Problem-Solving Thinking

2. Python Basics & Core Syntax

- Installation: Anaconda, VS Code environment setup
- Syntax rules, indentation, comments
- Variables — dynamic typing, multiple assignment, type casting

3. Data Types — Deep Understanding

- Primitives: int, float, string, bool
- Collections: List (mutable), Tuple (immutable), Dictionary (key-value), Set (unique)
- Advanced: List Comprehension, Nested Lists

4. Operators & Control Flow

- Operators: Arithmetic, Comparison, Logical, Assignment, Identity, Membership, Bitwise
- Conditionals: if, elif, else, nested conditions
- Loops: for, while, break, continue, pass, nested loops

5. Functions & Functional Programming

- Defining functions — arguments, return values, scope (local/global)
- Lambda Functions — anonymous, one-line functions
- map(), filter(), reduce()Functional Tools:

6. File Handling

- File types, Read, Write, Append operations
- Context Manager: with open() pattern for safe file handling

7. Object-Oriented Programming (OOP)

- Constructor — __init__ method , Class & Object
- Encapsulation — data hiding
- Inheritance — types and usage
- Polymorphism & Abstraction

8. Web Scraping

- HTML basics — understanding document structure
- Requests library — fetching web content
- BeautifulSoup — parsing & extracting data
- Hands-on real website scraping project

— Machine Learning

1. NumPy — Numerical Computing

- Arrays: 1D, 2D, 3D — indexing & slicing
- Broadcasting, Vectorization, Mathematical Operations
- Random Module for data simulation

2. Pandas — Data Handling

- Series & DataFrames — the core data structures
- Data: CSV, Excel, JSON formats Importing
- Data Cleaning — handling missing values, duplicates
- Filtering, Sorting, GroupBy Operations

3. Data Visualization

- Matplotlib Basics & Seaborn Advanced Plots
- Charts: Line, Bar, Histogram, Scatter, Box Plot, Heatmap

4. Statistics for Machine Learning

- Descriptive Stats:Mean, Median, Mode, Variance, Standard Deviation
- Probability Basics, Correlation, Normal Distribution
- Hypothesis Thinking — the foundation of model evaluation

5. Data Preprocessing

- Missing Value Treatment & Outlier Detection
- Encoding: Label Encoding, One Hot Encoding
- Feature Scaling: Min Max Scaler, Standard Scaler
- Feature Engineering — creating new meaningful features

6. Machine Learning Algorithms

- Linear Regression, Multiple Regression, Polynomial Regression
- MSE, RMSE, R^2
- Logistic Regression, K-Nearest Neighbors (KNN)
- Support Vector Machines (SVM), Decision Trees
- Bagging & Random Forest
- Boosting: AdaBoost, Gradient Boosting, XGBoost
- Stacking & Voting

7. Model Evaluation

- Accuracy, Precision, Recall, F1 Score
- Confusion Matrix, Cross-Validation

8. Unsupervised Learning

- K-Means Clustering & Hierarchical Clustering
- PCA — Principal Component Analysis for dimensionality reduction

— Artificial Intelligence

1. Neural Networks — Foundation

- Perceptron — the building block of AI
- ANN Architecture — layers, neurons, weights
- Activation Functions: ReLU, Sigmoid, Tanh
- Forward Propagation & Backpropagation

2. Deep Learning Concepts

- Gradient Descent — optimizing model weights
- Loss Functions — measuring model error
- Overfitting & Regularization techniques
- Dropout — reducing overfitting in deep nets

3. Computer Vision with OpenCV

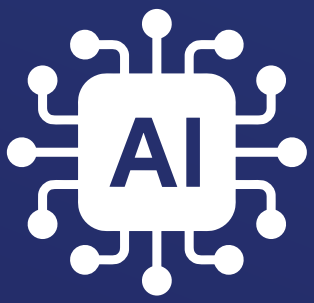
- OpenCV Basics — image reading, display, manipulation
- Image Processing — filters & transformations
- Edge Detection algorithms
- Face Detection using Haar Cascades
- CNN Introduction — Convolutional Neural Networks

4. Natural Language Processing (NLP)

- Tokenization, Stop Words Removal
- Stemming & Lemmatization — text normalization
- Bag of Words & TF-IDF — text feature extraction
- Sentiment Analysis — classifying text emotion

5. Sequence Models

- RNN — Recurrent Neural Networks
- LSTM — Long Short-Term Memory networks



— Prompt Engineering & LLM Systems

1. LLM Fundamentals

- What is a Large Language Model (LLM)?
- How LLMs understand language — tokens, tokenization & embeddings
- Role in LLMs
- Context Window — short vs long memory limits
- Training vs Inference in LLMs

2. Prompt Engineering Basics

- What is a Prompt? — Instruction + Context + Output Format
- Input → Output Mapping concept
- Good vs Bad Prompts — clarity, specificity & constraints
- Why prompt quality directly changes output quality?

3. Core Prompt Engineering Techniques

- Zero-Shot Prompting — no examples
- Few-Shot Prompting — guiding with examples
- Role Prompting — "You are a senior data analyst..."
- Instruction Prompting — step-by-step control
- Chain-of-Thought Prompting — structured reasoning
- Negative Prompting — explicit exclusion of unwanted output
- Format Control — JSON, tables, bullet-point outputs

4. Prompt Design Framework — CLEAR

- Context, Length, Examples, Audience, Result
- Accurate and relevant responses
- Better clarity, consistency, and output quality

5. Advanced Prompt Engineering

- Prompt Chaining — breaking complex tasks into sequential steps
- ReAct Framework — Reason + Act: tools inside prompts
- Tree of Thoughts — multiple reasoning paths, best solution selection
- Self-Consistency Prompting — generating and comparing multiple outputs
- Prompt Optimization — iterative improvement for better results
- Structured Output Control — JSON, API-ready formatted responses
- Prompt Debugging — fixing hallucinations, reducing ambiguity
- Context Optimization — efficient token usage in long windows

6. Intro to AI Agent

- Intro to AI Agent
- Ai agent vs Basic LLMs Difference
- Use Lang chain to make AI-Workflow
- Tools in AI Agents

7. Tools & Ecosystem

- AI Platforms: ChatGPT, Claude, Gemini — usage strategies
- Hugging Face — open-source LLM models
- Vector Databases: ChromaDB, FAISS — semantic search
- Prompt templates in production systems
- APIs vs Local Models — when to use which

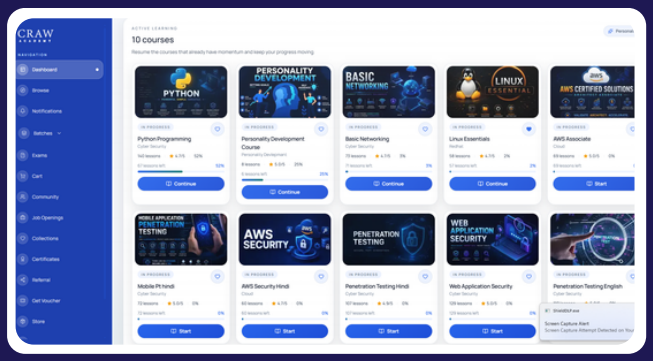
8. Local AI Models

- llama.cpp — running LLMs on CPU
- Ollama — easy local model runner
- Running models fully offline — privacy & speed
- Quantization — GGUF models for efficient inference
- GPU vs CPU inference — hardware considerations
- Chatbot Development with LLMs

9. AI Safety & Responsible AI

- Hallucinations in LLMs — causes and mitigation
- Bias in AI outputs — detection and correction
- Data privacy concerns & compliance
- Ethical AI usage principles

LMS PORTAL FOR STUDENTS AND VISITORS



We encourage students and visitors to sign up and log in to the LMS (Learning Management System) Portal for multipurpose usage, including free access to CrackTheLab Premium Subscription, enrolled course details, training videos, attendance records, examinations, physical and software hacking tools, training vouchers, job opportunities, certificates, and many more features.

To know more about the LMS Portal, please scan the QR code provided below.

INDUSTRY INTERNSHIP OPPORTUNITY

Gain hands-on experience through a 3-month industry internship as part of the program, working on real-world AI & ML projects, applying practical skills, and building a strong portfolio to enhance your career opportunities.

PD SESSIONS & GD SESSIONS

Get high-end Personality Development Sessions and know the details of enhancing your aura and charm to get fruitful results in making a lasting impression in face-to-face interactions and professional interviews.

RESUME BUILDING

Get expert guidance to create a strong, professional, and job-focused resume that highlights your skills and certifications.Our trainers help students present their cybersecurity knowledge, projects, and achievements effectively to recruiters.



ENGLISH COMMUNICATION CLASSES

Get expert guidance to create a strong, professional, and job-focused resume that highlights your skills and certifications.Our trainers help students present their cybersecurity knowledge, projects, and achievements effectively to recruiters.



MOCK INTERVIEW SESSIONS

Practice real interview scenarios with trainers and industry experts to understand common technical and HR interview questions.Mock interviews help students identify weak areas, improve answers, and gain confidence before facing actual recruiters.



Get trained with expert-led sessions including PD Sessions, Campus Placement Preparation, GD Sessions, Mock Interviews, English Communication Classes, Resume Building & more to become industry-ready.

Scan the QR Code to watch the video and explore how CRAW Security can help shape your future in Cyber Security & IT

PLACEMENT DRIVES

Craw Security conducts placement drives to connect trained students with hiring opportunities in reputed companies.Students get exposure to off-campus interviews as well as campus placement drives organized at our Saket branch.



INTERVIEW SESSIONS AT SAKET BRANCH – CAMPUS PLACEMENT DRIVE

Students are provided opportunities to attend interviews at various companies based on job openings and eligibility. These off-campus interview sessions help candidates gain real hiring exposure and industry-level interview experience.



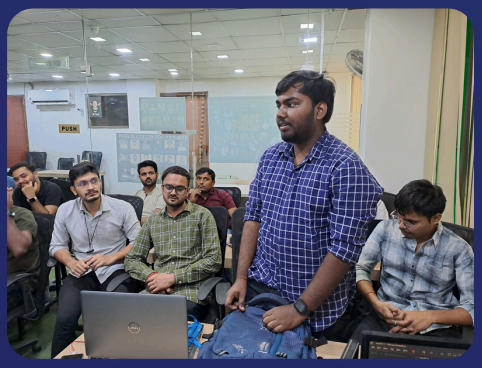
INDIVIDUAL COUNSELLING SESSIONS – IF REQUIRED

Personal counselling sessions are available for students who need career guidance, interview support, or learning direction. These one-to-one sessions help students choose the right career path and improve their preparation strategy



CONFIDENCE BUILDING CLASSES

Develop self-confidence, positive thinking, and a professional mindset through guided training and practical activities. These classes help students overcome hesitation and perform better in interviews, presentations, and workplace situations.



PLACEMENT SUPPORT WITH LEADING COMPANIES

PRECISE Testing Solution
Cloud Infotech — IP Telecom Consulting, Integration & Services
Qualicentric — Quality is Everything
team COMPUTERS
Lucid Growth
SOPHOS
ProExcel
OrionSecure
cybroTech
NETRIKA
CYBER EVOLVE — Locking Threats, Unlocking Peace
LARSEN & TOUBRO
TechDefencelabs
maple cloud MCT
eSOLUTIONS

CYBERSECURITY LIBRARY & LEARNING RESOURCES

CRAW Security provides dedicated library services and learning resources for students enrolled in one-year diploma programs. Our library support includes access to cybersecurity books, digital study materials, research content, technical documentation, and learning references designed to enhance practical and theoretical knowledge. These resources help students strengthen their understanding of ethical hacking, cyber security, digital forensics, and emerging technologies while supporting continuous learning and professional development.




AI

OUR PRODUCTS

SHIELDXOR
ThreatFusionAI™
CRACK THE LAB — Gamified way of learning through challenge Labs
PhishNext

DAILY CYBER SECURITY NEWS UPDATES

Stay informed with the latest cyber security news, hacking incidents, ransomware attacks, data breaches, and vulnerability disclosures from around the world with News4Hackers.com. Get real-time updates, expert insights, and breaking reports to stay ahead of emerging cyber threats, online scams, and digital security risks.

CYBERSECURITY COURSES, TOOLS , CTF PLATFORMS

We provide comprehensive cybersecurity training programs and courses available for organizations, businesses, and government institutions. we offer Capture The Flag (CTF) challenges, subscription-based cybersecurity learning programs, and specialized cybersecurity tools designed to support practical training, skill development, and advanced cyber defence capabilities.

CRACK THE LAB
Gamified way of learning through challenge Labs

CAREER PATHS

Graduates of this program are qualified for the most in-demand roles in the AI & Data industry.

Data Analyst

Analyze structured data to uncover trends, build dashboards, and support business decisions using SQL, Python, and BI tools, with strong demand across industries in 2026 and clear growth into advanced analytics and data science roles.

ML Engineer

Build, train, and deploy machine learning models into production using tools like Scikit-learn, XGBoost, TensorFlow, and cloud platforms, with very high demand in 2026 as companies seek engineers to turn AI research into real-world applications.

AI Engineer

Design and build intelligent systems using deep learning, NLP, and computer vision for advanced applications like chatbots, recommendation engines, and automation tools, with massive demand in 2026 across robotics, healthcare, autonomous systems, and enterprise AI.

DIGITAL FORENSICS WORKSTATIONS & CYBER LAB INFRASTRUCTURE

We provide advanced digital forensics workstations and robust hardware infrastructure for AI and cybersecurity laboratories. Our solutions are designed to support activities such as digital investigation, malware analysis, cyber defence training, and artificial intelligence research. These high-performance systems help organizations, institutions, and cyber labs build secure and efficient environments for practical cybersecurity and forensic analysis.

WHO SHOULD DO THIS COURSE?

- Students and Freshers: Students from B.Tech, BCA, MCA, B.Sc, M.Sc, diploma, and other backgrounds can join to build career-ready AI and ML skills.
- Working Professionals: IT professionals, developers, system admins, cybersecurity experts, and analysts can upgrade their skills for AI-based job roles.
- Data Enthusiasts: Anyone interested in data analysis, prediction, automation, and intelligent systems can gain practical AI and ML expertise.
- Python Learners: Learners with basic Python knowledge can advance toward AI, ML, and data science applications.
- Career Changers: Professionals from non-tech or different backgrounds can switch to a future-ready career in AI and ML. training programs.
- **Entrepreneurs and Business Owners:** Startup founders and business owners can learn AI and ML for automation, customer analytics, AI tools, and data-driven decisions.




OffSec The Path to a Secure Future™ · EC-Council · CompTIA · python · CISCO · Red Hat · aws · Microsoft · CERTNEXUS · PECB

TERMS AND CONDITIONS* FOR 100% PLACEMENT ASSISTANCE

- Attendance 75% is mandatory.
- Marks for internal exams should be 80% mandatory.
- Fees for the 1-Year Diploma in Artificial Intelligence (AI) and Machine Learning should be properly paid.
- Candidates can apply for a Job after completion of 6 modules.
- Candidates are eligible for taking Mock Interview sessions, PD Classes, Resume
- Making Sessions, Communication classes, and many more services from the
- Placement Cell right from the Day 1 after enrolling in the 1-Year Diploma in Artificial Intelligence (AI) and Machine Learning
- Global certifications required, if needed by companies for a job.
- Candidates should be Graduate/Pursuing.
- One time job Assistance/ Placement will be provided, if candidate missed any
- interview, Craw Placement cell will not liable to re-arrange the interview and also
- Craw Academy will not be liable for any refund or future litigations or claims.
- Package as per candidate's skills or according to company norms.
- Ideal Candidates can apply in multiple jobs.
- Post Placement Process will be provided by Placement Cell which is as follows.
  a. Documentation
  b. Offer Letter
  c. Joining Date/Timeline of Joining

CRAW ACADEMY
Learn | Research | Innovate

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2. Installment Available

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NOTE – * Terms & Conditions Apply only for 1- Year Diploma in Artificial Intelligence (AI) and Machine Learning

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