

Six Months 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.



6 MONTHS 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.





— 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

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

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

2. SQL Fundamentals — DDL & DML

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

4. Data Grouping & Conditional Logic

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

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

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

5. Functions & Functional Programming

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

2. Python Basics & Core Syntax

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

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

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

— Machine Learning

1. NumPy — Numerical Computing

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

3. Data Visualization

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

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

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

8. Web Scraping

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

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

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

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

2. Deep Learning Concepts

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



Benefits	6 Months Diploma in AI and Machine Learning Course	1 Year Diploma in Artificial Intelligence and Machine Learning Course
100% Placement Assistance	✗	✓
Personality Development Sessions	✗	✓
Group Discussion Sessions	✗	✓
English Communication Sessions	✗	✓
Mock Interview Sessions	✗	✓
Placement Drives Access	✗	✓
Resume Building Classes	✗	✓
Physical Cybersecurity Tools Training	✗	✓
Individual Counselling Sessions, If Required	✗	✓

*The internship will be held in Craw Security premises in the development of our in-house products, like ShieldXDR, CrackTheLab, ThreatFusionAI, PhishNext, Cyber Forensics Domain, Training and Development processes, etc.

If you are interested in the same **1 Year Diploma in Artificial Intelligence and Machine Learning Course** through Craw Security, then you may go to the course and brief yourself on the same. In addition, you can even dial our hotline number, +91-9513805401, to have a word with our professional counseling team members with good expertise in resolving the same concerns related to cybersecurity and AI, for interested individuals.



Our Learning Partners



Our Products



DIGITAL FORENSICS WORKSTATIONS & CYBER LAB INFRASTRUCTURE

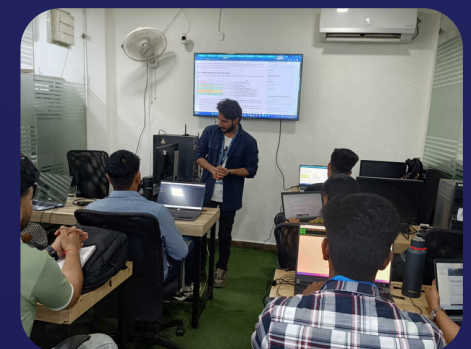
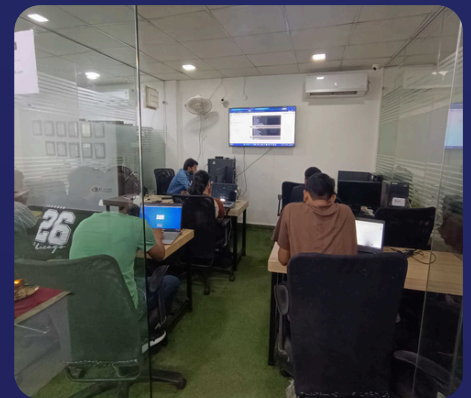
We provide advanced digital forensics workstations and robust hardware infrastructure for AI and cybersecurity laboratories. Our solutions are designed to support activities such as digital investigation, malware analysis, cyber defence training, and artificial intelligence research. These high-performance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



PLACEMENT SUPPORT WITH LEADING COMPANIES



OUR CLASSROOM LABS



CRAW CYBER SECURITY PVT LTD

(HEAD OFFICE | SAKET, NEW DELHI)



1st Floor, Plot no. 4, Lane no. 2, Kehar Singh Estate Westend Marg,
Behind Saket Metro Station, Said-ula-jab, New Delhi 110030



Office Landline : (+011) 4039 4315
Mobile : +91 951 380 5401



Email ID : info@craw.in | training@craw.in Website : www.craw.in

CRAW CYBER SECURITY PVT LTD

(LAXMI NAGAR, NEW DELHI)



R31/ 32, 2nd floor , Jandu Tower Vikas marg, Shakarpur New Delhi 110090



Office Landline : (+011) 4504 0849
Mobile : +91 951 380 5401



Email ID : info@craw.in | training@craw.in Website : www.craw.in

CRAW CYBER SECURITY PTE LTD

(SINGAPORE OFFICE)



27 Paya Lebar Road, #13-05 Paya Lebar Residences, Singapore - 409042



Office Landline : +65 9797 6564



Email ID : info@crawsecurity.com Website : www.crawsecurity.com

CRAWSEC LLC USA

(USA OFFICE)



30 N Gould St Ste R Sheridan, WY 82801

CRAW
ACADEMY

Learn | Research | Innovate

