



**START YOUR  
DATA SCIENCE  
WITH GEN AI  
CAREER TODAY!!**

**CREDO SYSTEMZ**

**Data Science with  
GEN AI Program**

# Capstone Projects :

Real Time Business Scenario using  
Data Science with Gen AI



## Customer Segmentations

To develop an unsupervised learning application that helps companies to target the possible user base



## Fake News Detection

Develop Fake News Detection Project to distinguish between true and fake news.



## Speech Recognition Based on Emotions

Create Speech Recognition Project focuses on providing personalized service based on speech.



## Sales Forecasting with Time Series

Predict future sales for products or stores using historical sales data and time series models.



## Resume Screening using NLP

Automatically filter and match resumes to job descriptions using natural language processing techniques.



## Disease Prediction System

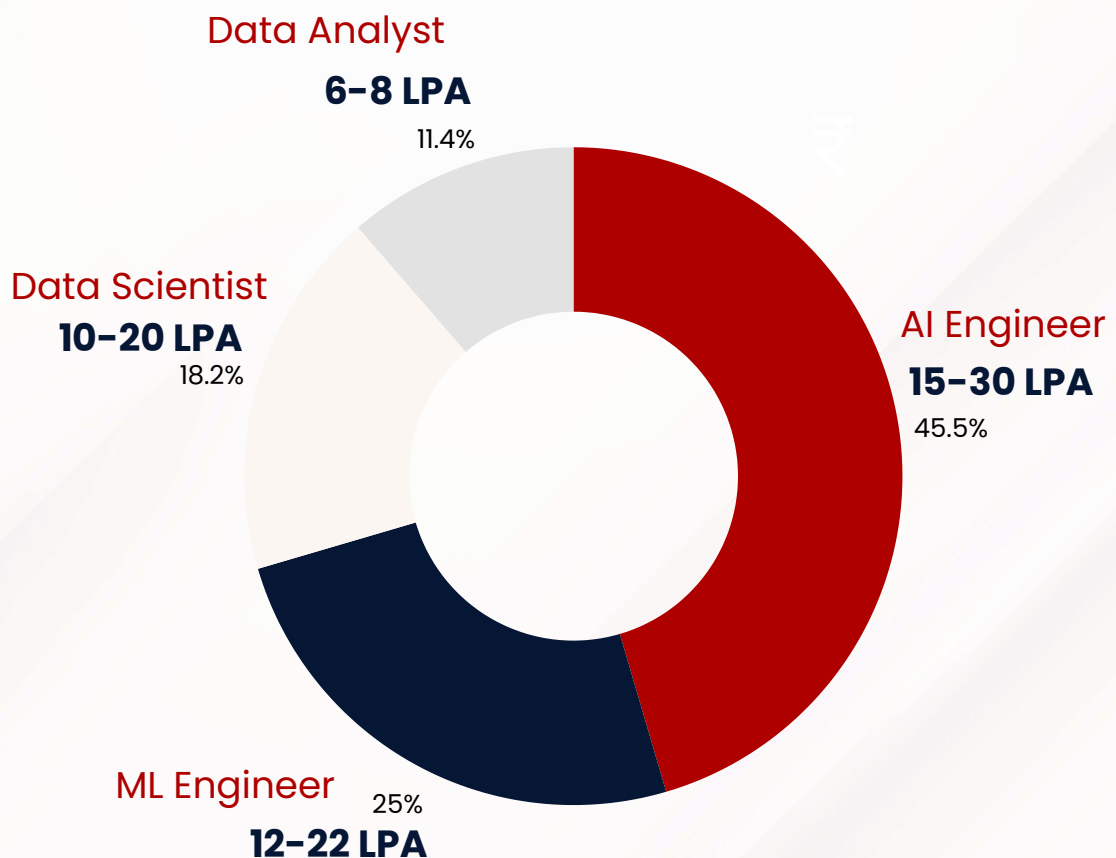
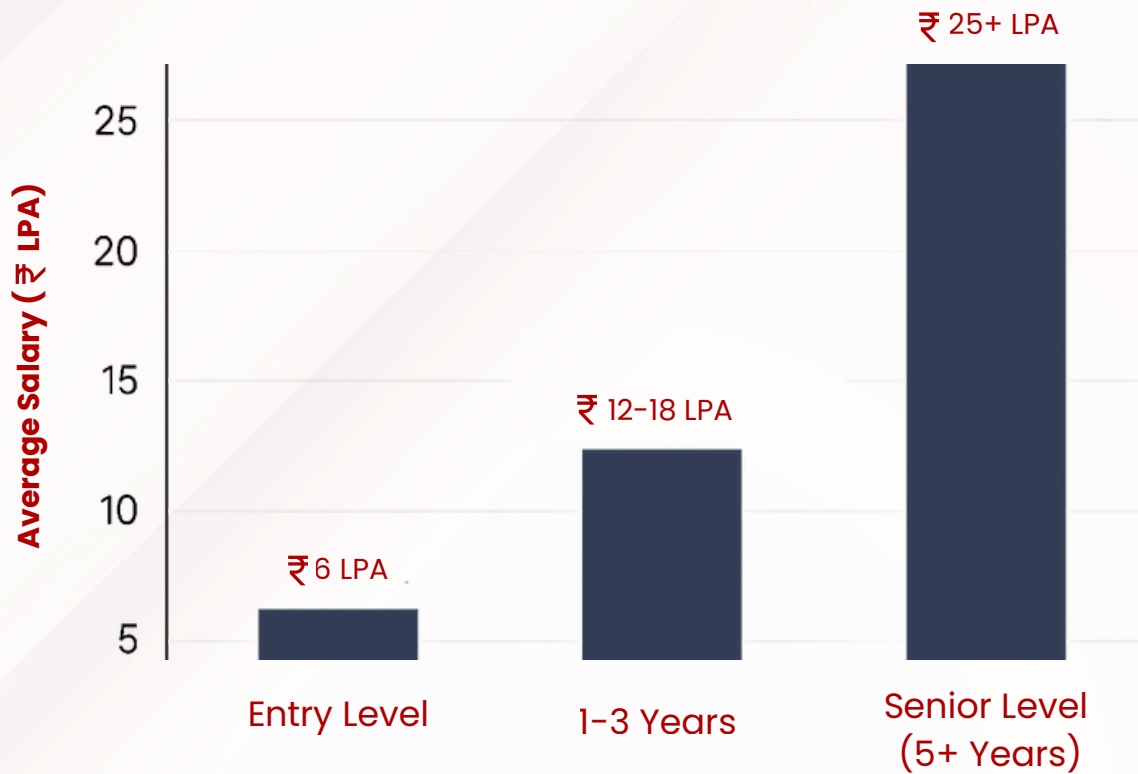
Build a predictive model to assess the risk of diseases like diabetes or heart disease using patient data.





# Data Science With Gen AI

## Opportunities & Demand



# DATA SCIENCE WITH GEN AI

## COURSE SYLLABUS

Duration : **100 hrs**

### Phase 1 : **Python Programming**

#### ✦ **Week 1:**

##### **Python Programming Concepts**

- Python Fundamentals
- Data Structures & Control Flow
- Functions
- Working with Files & Exception Handling

#### ✦ **Week 2:**

##### **NumPy, Pandas, and Data Handling**

- NumPy for Numerical Computations
- Pandas for Data Manipulation
- DataFrame Operations

#### ✦ **Week 3:**

##### **Data Visualization, APIs, and Automation**

- NumPy for Numerical Computations
- Pandas for Data Manipulation
- DataFrame Operations

### Phase 2 : **Statistics & Probability**

#### ✦ **Week 4:**

##### **Descriptive Statistics & Data Understanding**

- Understanding Data Types & Distributions
- Data Visualization
- Outliers & Data Cleaning

#### ✦ **Weeks 5 and 6:**

##### **Probability Theory & Inferential Statistics**

- Probability Foundations
- Probability Distributions
- Hypothesis Testing & Confidence Intervals
- Types of Hypothesis Tests
- Confidence Intervals



## Phase 3 : **Classical Machine Learning**

### ✦ **Week 7:**

#### **Machine Learning & Supervised Learning**

- Machine Learning Basics
- Linear Regression (Predicting Continuous Variables)

### ✦ **Week 8:**

#### **Classification Models & Model Evaluation**

- Logistic Regression (Binary Classification)
- Decision Trees & Random Forests
- Support Vector Machines (SVMs)

### ✦ **Week 9:**

#### **Unsupervised Learning & Dimensionality Reduction**

- Clustering Techniques (Grouping Similar Data)
- Principal Component Analysis (PCA)
- Feature Engineering & Data Preprocessing

### ✦ **Week 10:**

#### **Advanced ML Concepts & Hyperparameter Tuning**

- Gradient Boosting Algorithms (XGBoost, LightGBM, CatBoost)
- Model Selection & Hyperparameter Tuning

### ✦ **Week 11:**

#### **Time Series Forecasting & Real-World Applications**

- Time Series Forecasting
- Model Deployment & Interpretability

## Phase 4 : Deep Learning

### ✦ Week 12:

#### Neural Networks & Deep Learning

- Introduction to Deep Learning & Neural Networks
- Building Feedforward Neural Networks (FNNs)

### ✦ Week 13:

#### Convolutional Neural Networks (CNNs)

- CNN Architecture & Applications
- Building & Training CNN Models

### ✦ Week 14:

#### Recurrent Neural Networks (RNNs)

- Sequence Modeling & Recurrent Networks
- Why RNNs for Sequential Data?
- Types of RNNs
- Vanishing Gradient Problem
- Impact on learning and performance
- Limitations of standard RNNs
- Introduction to LSTMs (Long Short-Term Memory)
- Visualizing LSTM flow
- GRUs (Gated Recurrent Units)
- GRU architecture: update and reset gate

### ✦ Week 15:

#### NLP

- Introduction to NLP
- Text Preprocessing Techniques
- Text Representation Techniques
- Named Entity Recognition (NER) & POS Tagging
- Sequence Modeling & Recurrent Networks
- Sentiment Analysis & Text Classification
- Text Similarity & Semantic Search
- Machine Translation & Text Generation
- Topic Modeling & Text Summarization

## **Phase 5 : Generative AI and Prompting techniques**

### ✦ **Week 16 :**

#### **Fundamentals of Generative AI**

- Introduction to Generative AI
- Foundation Models in Generative AI
- Transformer Architecture & Mechanisms

### ✦ **Week 17 :**

#### **Prompt Engineering & Technique**

- Introduction to Prompting Techniques
- Types of Prompting Techniques
- Advanced Prompt Engineering Strategies
- Prompt Optimization & Debugging

### ✦ **Week 18 :**

#### **Generative AI Application**

- Text Generation & AI Writing Assistants
- Image Generation with Diffusion Models
- Multimodal AI & Interactive Applications
- AI in Code Generation & Productivity Tools

### ✦ **Week 19 :**

#### **ETHICS, DEPLOYMENT & PROJECTS**

- Ethical Considerations in Generative AI
- Deploying Generative AI Models



## Phase 6 : Ancillary Skills for AI & ML Practitioners

### ✦ Week 20 :

#### Big Data Processing & Distributed Computing

- Introduction to Big Data for AI
- Scalable Data Processing for AI Pipelines

### ✦ Week 21 :

#### Cloud Computing & AI Workflows

- Cloud AI Services & Model Deployment
- Serverless & Containerized AI Deployments

### ✦ Week 22 :

#### ML Engineering & Software Development Best Practices

- **ML Engineering & Best Coding Practices**
  - Structuring ML Code for Maintainability
  - Modularization, OOP & Functional Programming in AI
  - Unit Testing for AI Codebases (pytest, unittest)
- **CI/CD Pipelines for AI Models**
  - Introduction to CI/CD for ML (Continuous Integration & Deployment)
  - Using GitHub Actions for ML Pipelines
  - Automating ML Workflows with MLflow & Kubeflow
  - Hands-on Exercise



# TOOLS

## Tools Covered

Python



NumPy



Pandas



XGBoost

*XGBoost*

LightGBM



CatBoost



Neural  
Networks



NLP



NER



POS  
Tagging



CNN Models



MLflow

*mlflow*

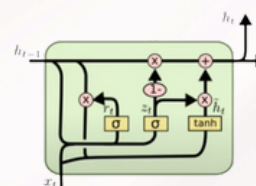
Kubeflow



Pytest



GRU  
architecture



# PLACEMENT SUCCESS STORIES

Designation  
.....

Company

Package



Arjun Sankar

**Data Scientist**



**12.5 LPA**



Naveen Babu

**Data Analyst**



**11.8 LPA**



Sindhu

**Machine Learning Engineer**



**8.5 LPA**



Jayasri

**Data Engineer**



**7.6 LPA**



Mukesh Babu

**Business Intelligence Developer**



**10.5 LPA**



Syed Haroon

**Big Data Analyst**



**15.2 LPA**

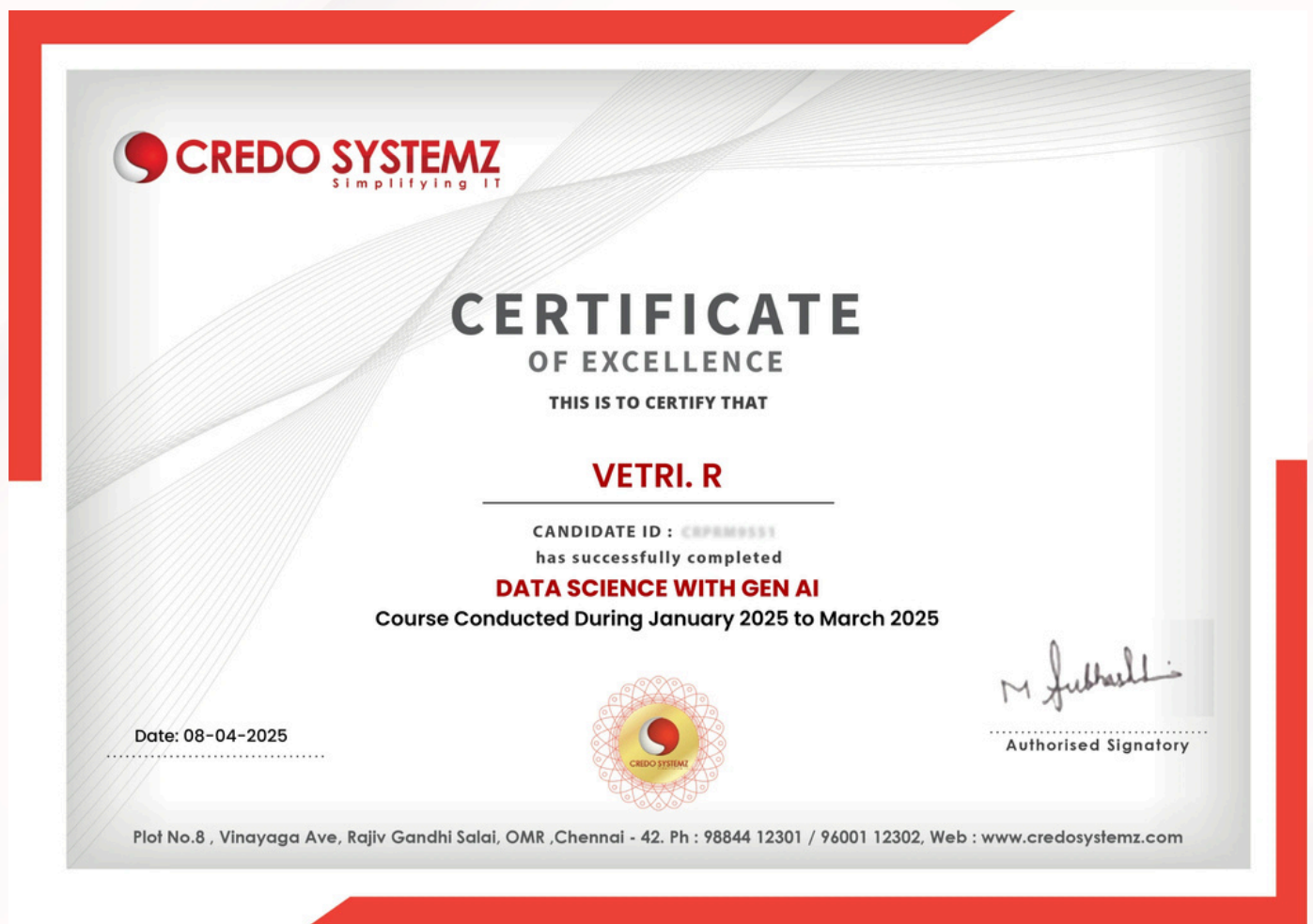


# OUR HIRING PARTNERS



# Earn your Data Science with Gen AI Course Completion Certificate

Credo Systemz's certificate is highly recognized by  
30K Global companies around the world.





# WHAT OUR TRAINEE SAYS?



**Jayasri**

**4.7** ★★★★★

I joined oracle sql and plsql course. Overall a very good experience and learnt new things from our trainer Mr.Vinoth. His teaching way was very good and it was very lively



**Monisha Joy**

**4.2** ★★★★★

Credo Systemz's data science class exceeded my expectations. I highly recommend Credo Systemz for anyone seeking a robust and engaging data science education.



**Suriya Prakash**

**5.0** ★★★★★

I want to share my sincere thanks to Credo Systemz for their Data Science with Gen AI training and placement support. They offered industrial standard Data science training.



**Mahathi Alagi**

**4.9** ★★★★★

My Data Science Training experience with Credo Systemz was an awesome journey from joining the course to landing in the appropriate job.



**Naveen Babu**

**4.0** ★★★★★

Hi, I joined Credo Systemz's Data Science Online Course. Due to my work schedule, I took the online course which was really good and convenient. Also the trainer was well experienced and very interactive.



**Arjun Sankar**

**4.5** ★★★★★

The Data Science with Gen AI course at Credo Systemz was excellent! Great support and real-time projects made the learning experience valuable. Highly recommend!



# CHENNAI

## VELACHERY

New # 30, Old # 16A, Third Main Road, Rajalakshmi Nagar, Velachery, (Opp. to Murugan Kalyana Mandapam), Chennai – 600 042.

 +91 98844 12301

## OMR

Plot No.8, Vinayaga Avenue, Rajiv Gandhi Salai, (OMR), Okkiampettai, (Behind Okkiyampet Bus Stop) Chennai – 600 097.

 +91 96001 12302

# OVERSEAS

## USA

Houchin Drive, Franklin, TN -37064. Tennessee

## UAE

Sima Electronic Building, LLH Opposite, Electra Street – Abu Dhabi