CREDO SYSTEMZ

Data Science Program

Capstone Projects :

Real Time Business Scenario using Data Science

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

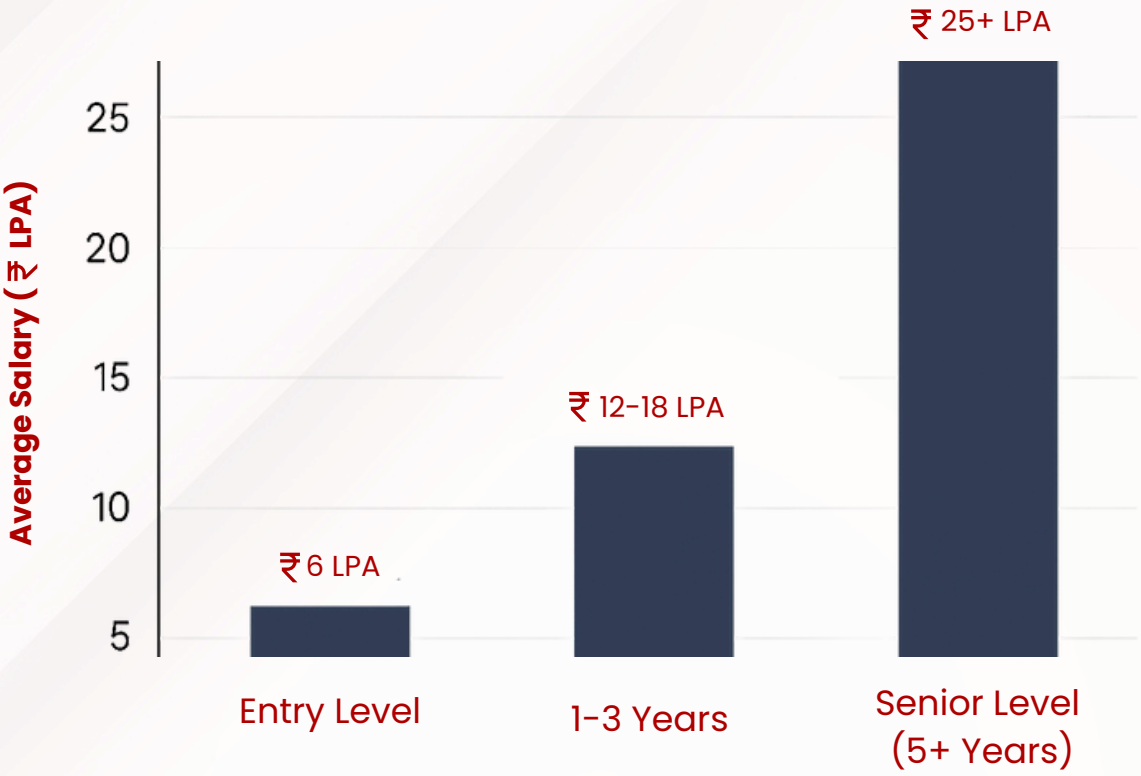
Automatically filter and match resumes to job descriptions using natural language processing techniques.

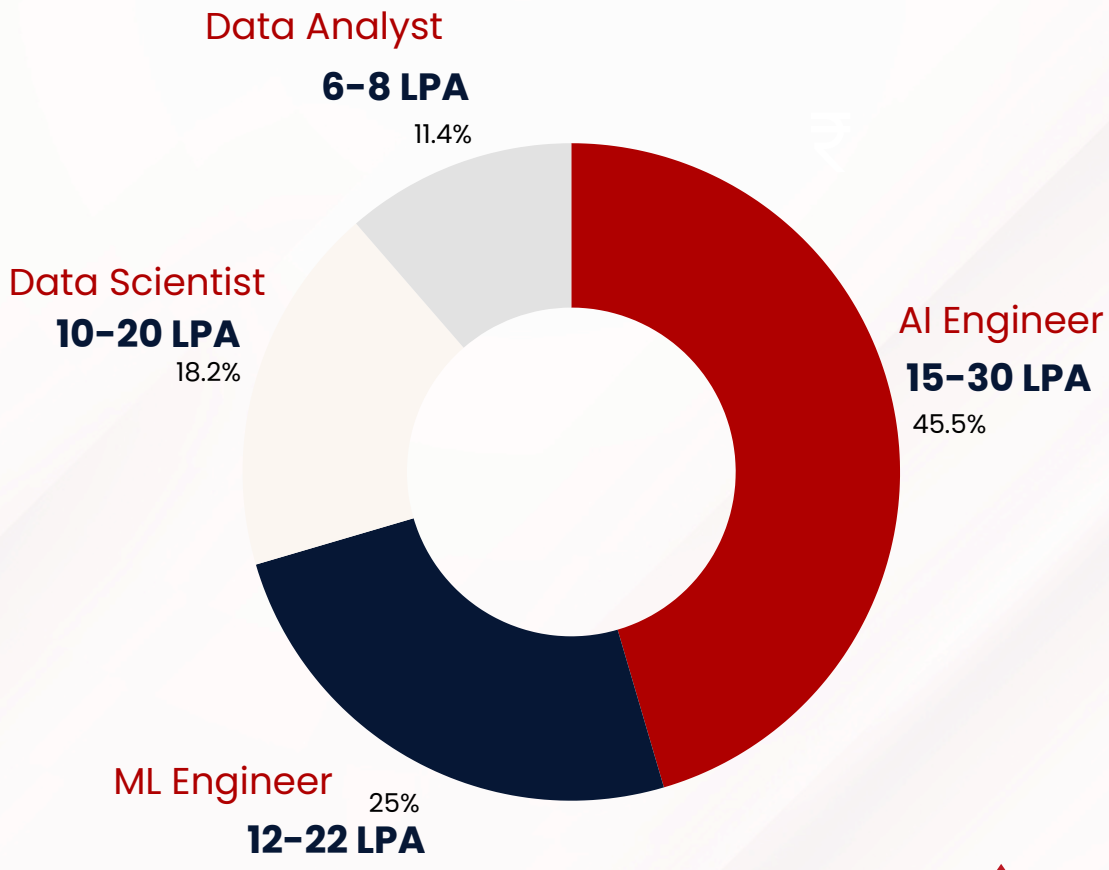
Disease Prediction System

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

Data Science

Opportunities & Demand





DATA SCIENCE COURSE SYLLABUS

Phase 1 : Python Programming

Week 1:

Python Basics & Core 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:
Introduction to Machine Learning & Supervised Learning

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

Week 8:
Classification Models & Model Evaluation

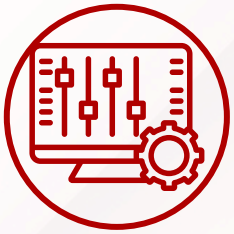
- Logistic Regression (Binary Classification)
- Decision Trees & Random Forests
- Support Vector Machines (SVMs)

Week 9:
Unsupervised Learning & Dimensionality Reduction

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

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 Foundations

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

Week 13:
Convolutional Neural Networks (CNNs) for Computer Vision

- 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

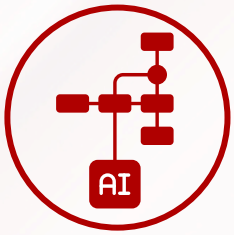
Phase 6 : Ancillary Skills for AI & ML Practitioners

Week 20 :
Big Data Processing & Distributed Computing

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

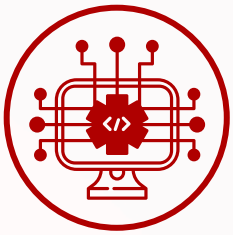
Week 21 :
Cloud Computing & AI Workflows

- 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

We offer a **customized** Data Science course syllabus to suit your career path—whether you're aiming for a role in Machine Learning, Data Analytics, or AI development.

Contact us now to get your customized syllabus!
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SKILLS AND TOOLS

Tools Covered

Tableau

SQL

R

Python

Pyspark

Pandas

Hadoop

Deep Learning Fundamentals

Advance Statistic Predictive

Dimensionality Reduction

Skills Covered

Big Data Processing

Critical Thinking

Data Analysis and Visualization

Data Wrandling

Machine Learning

Mathematics and Probability

Predictive Analytics

Optimize Model Performance

PLACEMENT SUCCESS STORIES

	Designation	Company	Package
 Arjun Sankar	Data Scientist	Capgemini	12.5 LPA
 Naveen Babu	Data Analyst	cognizant	11.8 LPA
 Sindhuj	Machine Learning Engineer	LIDER MINDFUL THOUGHTS DRIVEN BY PASSION	8.5 LPA
 Jayasri	Data Engineer	Ascent24	7.6 LPA
 Mukesh Babu	Business Intelligence Developer	IRIS	10.5 LPA
 Syed Haroon	Big Data Analyst	TCS TATA CONSULTANCY SERVICES	15.2 LPA

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ALTOS Technologies

Earn your Data Science Course Completion Certificate

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

WHAT OUR TRAINEE SAYS?

Jayasri

4.7 ★★★★½

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 ★★★★½

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 training and placement support. They offered industrial standard Data science training.

Mahathi Alagi

4.9 ★★★★½

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 ★★★★½

The Data Science 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.

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OMR

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OVERSEAS

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