

# **Data Analytics with AI**

## Page 1: Introduction

Data Analytics with AI combines traditional data analysis techniques with Artificial Intelligence and Machine Learning to extract insights, predict trends, and automate decision-making.

### Key Areas:

- Data Collection
- Data Cleaning
- Data Visualization
- Predictive Analytics
- AI Model Building

AI enhances analytics by finding hidden patterns in large datasets.

# **Core Technologies**

Page 2: Core Technologies

**1. Python:**

Popular language for data analytics.

**2. Libraries:**

- Pandas (data manipulation)
- NumPy (numerical computing)
- Matplotlib / Seaborn (visualization)
- Scikit-learn (machine learning)

**3. SQL:**

Used for database querying.

**4. Excel / Power BI / Tableau:**

Data visualization tools.

# **Machine Learning in Analytics**

Page 3: Machine Learning Concepts

Types of Machine Learning:

- Supervised Learning
- Unsupervised Learning
- Reinforcement Learning

Common Algorithms:

- Linear Regression
- Decision Trees
- Random Forest
- K-Means Clustering

AI models help predict sales, detect fraud, and recommend products.

# AI Applications in Data Analytics

## Page 4: Real-World Applications

- Business Intelligence
- Customer Behavior Analysis
- Fraud Detection
- Healthcare Prediction
- Stock Market Forecasting

AI-powered dashboards provide real-time insights and automation.

# Career & Interview Preparation

Page 5: Career Path & Interview Topics

Skills Required:

- Python Programming
- SQL
- Statistics
- Machine Learning Basics
- Data Visualization

Interview Questions:

- What is Data Analytics?
- Difference between AI and ML?
- What is Regression?
- What is Overfitting?
- Explain Pandas and NumPy.

Data Analytics with AI is one of the fastest growing career fields.