COURSE SYLLABUS

AI for Data Analytics Course (Self-Paced)

Automate and enhance the data analysis process with artificial intelligence (AI). In this course, you'll learn how to utilize AI tools to collect, preprocess, analyze, visualize, and interpret data without the need for extensive coding knowledge.

Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://www.graduateschool.edu/courses/ai-for-data-analytics-self-paced



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Course Outline

Introduction to AI in Data Analytics

Overview of AI & Data Analytics

- Understanding AI and its applications in data analytics
- Benefits of using AI for data analysis

Introduction to AI Tools

Overview of popular AI tools and platforms (e.g. IBM Watson, Google AI, Tableau, Microsoft Azure AI)

Data Collection & Preparation

Data Sources & Collection Methods

- Identifying various data sources
- Using AI tools to collect data from different platforms

Data Cleaning & Preprocessing

- Automated data cleaning techniques
- Handling missing data and outliers using AI tools

Exploratory Data Analysis (EDA)

Understanding Your Data

- Using AI tools to generate summary statistics
- Visualizing data distributions and relationships

Advanced EDA Techniques

- Automated pattern and trend detection
- AI-driven feature selection and engineering

Data Visualization

Creating Visualizations

- Using AI tools to create charts, graphs, and dashboards
- Best practices for data visualization

Interactive Dashboards

- Building interactive dashboards with AI tools
- Customizing dashboards to meet specific needs

Predictive Analytics & Modeling

Introduction to Predictive Modeling

- Understanding regression, classification, and clustering
- Using AI tools to build predictive models

Model Evaluation & Validation

- Automated model evaluation techniques
- Understanding metrics and performance evaluation

Application of AI in Various Domains

Financial Data Analysis

Case studies and applications in financial forecasting

Marketing Data Analysis

Analyzing customer behavior and market trends

Healthcare Data Analysis

Applications in patient data analysis and medical research

Advanced AI Techniques

Natural Language Processing (NLP)

Using AI for text analysis and sentiment analysis

Time Series Analysis

Automated time series forecasting with AI tools

Capstone Project

Project Planning & Execution

Defining a project scope and objectives

Applying Learned Skills

Using AI tools to complete a comprehensive data analysis project

Presentation & Reporting

Presenting findings using AI-generated reports and visualizations