

# Data Analytics & AI Certificate

Practical skill in dataset analysis, predictive modeling, and AI-powered application development comes from working in Python with leading industry tools.

Group classes in NYC and onsite training is available for this course. For more information, email [corporate@nobledesktop.com](mailto:corporate@nobledesktop.com) or visit: <https://training-nyc.com/certificates/data-analytics-ai>



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## Course Outline

This package includes these courses

- Excel for Data Analytics (18 Hours)
- Data Analytics Foundations (12 Hours)
- Python for Data Science Bootcamp (30 Hours)
- SQL Bootcamp (PostgreSQL) (18 Hours)
- Python for Automation (6 Hours)
- Python Data Visualization & Interactive Dashboards (24 Hours)
- Python Machine Learning Bootcamp (30 Hours)
- Tableau Bootcamp (12 Hours)
- Python for AI: Create AI Apps with Flask & OpenAI (30 Hours)
- Python Machine Learning Advanced (0 hours)
- Data Science Capstone Projects (Self-Paced) (0 hours)

## Excel for Data Analytics

- Learn fundamental database and statistical functions
- Use Pivot Tables and lookup functions (including VLOOKUP)
- Create simple macros to speed up your workflow

## Data Analytics Foundations

- Fundamentals of data analytics and statistics
- How to use data for forecasting & decision-making
- How businesses use data analytics in their processes

## Python for Data Science Bootcamp

Learn the fundamentals of Python and object-oriented programming in this 5-day intensive course. You'll gain a solid

understanding of Python, with a strong emphasis on using libraries and frameworks for data science.

## SQL Bootcamp (PostgreSQL)

- Explore information stored in a database (tables, columns, rows, etc.) using the graphical interface of DBeaver (a popular free database app)
- Write SQL queries to retrieve data from tables in a database
- Combine information from multiple tables with JOIN statements
- Filter data, group it, and sort it to extract the specific info you need
- Advanced techniques like Subqueries, String Functions, and IF-Else logic with CASE
- How to use Views and Functions with parameters instead of directly querying tables

## Python for Automation

This class will teach students how to scrape and mine the web for any type of data. Whether you are in academics, business, journalism or anything in between - this class will be extremely beneficial. Students will learn two major skills in this course: Python and web scraping. Students will first be introduced to one of the most popular programming languages and later learn one of its many libraries. If you are interested in pursuing this skill further, check out our [Python for Data Science Bootcamp](#).

## Python Data Visualization & Interactive Dashboards

- Plan & present a data story
- Gather and manipulate data from different sources
- Find data stories through exploratory data analysis
- Manipulate data with NumPy and Pandas.
- Use advanced Python visualization libraries Plotly and Dash
- Build a dashboard
- Apply the rules of effective dashboard design to create professional data science solutions
- Go live with your project & deploy the dashboard on a live server

## Python Machine Learning Bootcamp

Take a step beyond normal programming, into using algorithms that can independently learn patterns and make decisions. Machine learning skills are in high demand, as these algorithms now run the majority of trading on Wall Street and the product recommendations at big companies like Amazon, Spotify, and Netflix.

## Tableau Bootcamp

- Learn to identify datasets to connect to, explore, analyze, filter, and structure your data
- Create a variety of maps to represent geographic data
- Build actions to control your visualizations within your sheets and dashboards

## Python for AI: Create AI Apps with Flask & OpenAI

- Learn how AI and Python go hand-in-hand

- Work with Python's major AI libraries
- Build & deploy your own AI app

## Python Machine Learning Advanced

Advanced machine learning techniques become hands-on experience here, through real-world projects you build and deploy in natural language processing, recommendation systems, forecasting, deep learning, and computer vision.

- Create full-stack applications in Flask and put them into production
- Set up recommendation engines of both the collaborative and content-based kind
- Project trends with advanced time series modeling in Facebook Prophet
- Use PyTorch to train convolutional neural networks and measure their performance
- Run YOLO for real-time object detection across images and video streams
- Draw on NLP techniques to construct sentiment analysis models that work well

## Data Science Capstone Projects (Self-Paced)

Three capstone projects run through this program, each one meant for your portfolio:

### Machine Learning & AI Capstone

- Select a structured dataset, clean it, and engineer features from it in order to train machine learning models such as logistic regression and random forest, then evaluate how they perform and present the results in clear visualizations.
- Present your work professionally, laying out the data processing workflow you followed, the modeling techniques you chose, and the insights you uncovered with Python libraries like pandas, scikit-learn, and Matplotlib.

### Python for AI Capstone (*Choose One of Two*)

- AI Chat Assistant: Create an interactive chat assistant that lives on a webpage, with Flask and JavaScript handling the OpenAI API integration behind context-aware user interactions.
- Collectibles Identification App: Build a Flask web app that accepts uploaded images of collectible items, calls on OpenAI to identify them and produce descriptive metadata, and displays the logged session history dynamically.

### Python Data Visualization Capstone

- Take global CO<sub>2</sub> emissions data together with GDP and population figures, clean and analyze it, and bring out trends and correlations in visualizations made with Matplotlib, seaborn, and plotly.
- Construct a responsive Dash dashboard for exploring the emissions data interactively, one that conveys regional trends, GDP-emission correlations, and emission anomalies clearly.

You work on the capstone projects on your own schedule, returning to the course materials as often as you need in order to check your progress and resolve questions as they come up.

Student work is available to view: [examples of data science capstone projects](#).