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Streamlit training: Interactive web application designer

2 days (14 hours)

Presentation

Want a fast way to create and share data applications? Our Streamlit training course is just what you need! This tool transforms data scripts into easily shareable web applications, all in Python.

We'll introduce you to the world of Streamlit, where you'll discover fundamental concepts such as data flows, display and style data and themes.

You'll also learn how to deploy and manage applications using popular tools such as Docker and Heroku.

Using the Python language, you can run the tool to build graphics, widgets, text, tables and much more.

As with all our training courses, this one will be presented with the latest version of the tool: [Streamlit 1.32](#).

Objectives

- Understanding the basics of Streamlit
- How to use components and customize them
- Mastering data visualization
- How to deploy Streamlit applications

Target audience

- Data Scientists
- Developers
- Engineers
- Data analyst

PREREQUISITES

Basic knowledge of Python.

STREAMLIT TRAINING PROGRAM

INTRODUCTION

- What is Streamlit?
- Streamlit installation and configuration in a virtual environment
- First Streamlit application: Hello World!
- Exploring the Streamlit user interface
- Dependency management

DATA VISUALIZATION

- Using `st.pyplot` to integrate Matplotlib graphics
- Creating interactive graphics with Altair and Plotly
- Implementing bar charts and area charts
- Practical tips for data visualization
- User input management for filtering and customizing visualizations

COMPONENTS AND CUSTOMIZATION

- Streamlit components and how to use them
- HTML and IFrame content integration
- Theme customization
- Create multi-page applications
- Interacting with widgets and storing session states

PRACTICAL PROJECT - NLP APPLICATIONS WITH STREAMLIT

- Streamlit application structure for natural language processing (NLP)
- Implementation of a text summarization process and evaluation with Rouge

- Add and customize visualizations for NLP results
- Streamlit code refactoring and modularization techniques
- Handling errors and insufficient data in NLP applications

DATA ANALYSIS APPLICATIONS

- Results download functions added
- Extracting metadata from multimedia files
- Building an analytics and tracking section for the application
- Static code analysis and performance enhancement for the Streamlit app
- Implementation of advanced features such as drag-and-drop

APPLICATION DEPLOYMENT AND MANAGEMENT

- Deploying Streamlit applications with Docker and Heroku
- Using and navigating the Streamlit sharing dashboard
- Streamlit application management with PM2 for enhanced performance
- Application load testing and performance monitoring
- Strategies for updating and maintaining Streamlit applications

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.