Streamlit for Data Apps Training Course

Professional Development Training Course Outline

Category	Research and Data Analysis	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's data-driven world, the ability to rapidly transform raw data into interactive, visually compelling web applications is a game-changer. Streamlit, a powerful Python framework, empowers data professionals to build dynamic dashboards, AI/ML apps, and real-time data visualizations without the overhead of traditional web development. Streamlit for Data Apps Training Course is designed to equip learners with hands-on experience in data app deployment, automation, and interactive visualization, enabling them to deliver insights faster and more effectively in industries ranging from finance and healthcare to marketing and analytics. Participants will gain mastery over Python integration, visualization libraries, cloud deployment, and performance optimization, positioning themselves at the forefront of the data analytics revolution.

Through a combination of project-based learning, real-world case studies, and collaborative exercises, this course bridges the gap between theory and practice. Learners will harness Streamlit's capabilities to create user-friendly data applications, operational dashboards, and predictive analytics platforms. By the end of the program, participants will not only understand how to build and deploy interactive data apps but also how to leverage data storytelling, UX/UI design, and performance tuning to maximize impact. This training is ideal for data scientists, analysts, business intelligence professionals, and Python developers aiming to translate their data insights into actionable, visually engaging applications.

Programme Curriculum

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Course Duration

5 days

Course Objectives

1. Master the Streamlit framework for rapid data app development.
2. Build interactive dashboards using Python and popular visualization libraries.
3. Deploy scalable data applications on cloud platforms.
4. Integrate AI and machine learning models into Streamlit apps.
5. Apply real-time data visualization techniques for dynamic reporting.
6. Optimize app performance and responsiveness for large datasets.
7. Implement user authentication and data security in Streamlit apps.
8. Enhance UX/UI design for interactive and intuitive applications.
9. Automate data workflows using Python scripts and APIs.
10. Develop predictive analytics dashboards for business decision-making.
11. Perform data storytelling through interactive visualizations.
12. Troubleshoot and debug common Streamlit app issues efficiently.
13. Gain practical experience through real-world case studies and projects.

Target Audience

1. Data Scientists seeking interactive deployment skills.
2. Data Analysts aiming for dynamic visualization capabilities.
3. Python Developers interested in rapid web app prototyping.
4. Business Intelligence Professionals exploring custom dashboards.
5. Machine Learning Engineers integrating ML models into apps.
6. Product Managers leveraging data-driven decision tools.
7. Academics and Researchers needing interactive data demos.
8. Startups and Entrepreneurs developing data-centric applications.

Course Modules

Module 1: Introduction to Streamlit & Setup

- Overview of Streamlit framework and architecture

- Installation and environment setup
- Understanding Streamlit components and widgets
- First app creation
- Case Study: Interactive COVID-19 dashboard

Module 2: Data Handling and Integration

- Loading and manipulating data with Pandas and NumPy
- Connecting to databases and APIs
- Data cleaning and preprocessing techniques
- Handling large datasets efficiently
- Case Study: Retail sales data integration app

Module 3: Visualizations & Charts

- Streamlit built-in charts
- Integration with **Matplotlib, Seaborn, Plotly**
- Customizing visuals for clarity and aesthetics
- Interactive widgets for dynamic visualization
- Case Study: Interactive stock market dashboard

Module 4: Interactivity & Widgets

- Using **sliders, buttons, select boxes, and forms**
- Handling user input and dynamic updates
- Conditional rendering based on user actions
- Combining widgets with visualizations
- Case Study: Customer segmentation tool

Module 5: Deploying Streamlit Apps

- Hosting apps on **Streamlit Cloud, AWS, and Heroku**
- Version control and collaborative deployment
- Continuous integration for data apps
- Monitoring app performance and uptime
- Case Study: Employee productivity analytics dashboard

Module 6: Machine Learning Integration

- Deploying **ML models using Streamlit**
- Model serialization with **Pickle and Joblib**
- Creating prediction interfaces for users
- Visualizing model performance and metrics
- Case Study: Loan approval prediction app

Module 7: UX/UI Design & Customization

- Streamlit theming and layout management
- Adding **CSS and custom components**
- Enhancing usability with intuitive design
- Responsive design for multiple devices
- Case Study: Healthcare patient monitoring dashboard

Module 8: Advanced Features & Optimization

- Performance optimization for large-scale apps
- Multi-page apps and navigation
- Implementing authentication and security
- Debugging and error handling strategies
- Case Study: Real-time IoT data visualization app

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com