Advanced Data Visualization with R 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 the data-driven world of today, Advanced Data Visualization has become an essential skill for data scientists, analysts, and researchers. Advanced Data Visualization with R Training Course is designed to empower learners with the technical expertise and practical tools necessary to create dynamic, interactive, and publication-ready visualizations. By mastering ggplot2 and plotly, participants will be able to interpret complex data insights clearly and aesthetically for strategic business and research decisions.

Participants will explore real-world case studies, understand best practices in visual storytelling, and unlock the full potential of R programming for interactive data visualization. The training course delivers hands-on experience, enabling professionals to enhance data presentation, communicate insights more effectively, and stay competitive in the fields of data analytics, business intelligence, and research visualization.

Programme Curriculum

Advanced Data Visualization with R Training Course

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professionals to enhance data presentation, communicate insights more effectively, and stay competitive in the fields of data analytics, business intelligence, and research visualization.

Course Objectives

1. Understand the core principles of data visualization using R.
2. Explore and apply advanced functions of ggplot2.
3. Build interactive dashboards using plotly and Shiny.
4. Apply data visualization for exploratory data analysis (EDA).
5. Integrate visualization techniques into machine learning workflows.
6. Use data storytelling principles for executive decision support.
7. Create publication-ready graphs for academic and industry reports.
8. Customize themes, annotations, and layouts using ggthemes.
9. Analyze multidimensional datasets with interactive charts.
10. Visualize time-series, geospatial, and categorical data effectively.
11. Automate visualization tasks using R Markdown and knitr.
12. Understand ethical principles in data visualization and interpretation.
13. Leverage open-source visualization tools for cost-effective insights.

Target Audiences:

1. Data Scientists and Data Analysts
2. Business Intelligence Professionals
3. Academic Researchers and Scholars
4. Statisticians and Quantitative Analysts
5. Healthcare and Public Policy Analysts
6. Software Developers with Data Roles
7. Graduate Students in Data-Related Fields
8. Marketing and Financial Analysts

Course Duration: 5 days

Course Modules

Module 1: Introduction to Data Visualization in R

- Importance of visualization in data science
- Overview of R and RStudio for visualization
- Data types and structures in R
- Introduction to ggplot2 syntax
- Plot aesthetics and geoms
- **Case Study**: Exploring a marketing dataset with ggplot2

Module 2: Mastering ggplot2 for Complex Plots

- Customizing themes and layers
- Faceting and coordinate systems
- Working with scales and legends
- Statistical transformations and smoothing
- Mapping aesthetics to variables
- **Case Study**: Visualizing customer segmentation data

Module 3: Interactive Visualizations with Plotly

- Introduction to plotly basics

- Enhancing static plots to interactive plots
- Layout customization and subplots
- Using tooltips and annotations
- Exporting and sharing interactive visuals
- **Case Study**: Creating interactive sales dashboards

Module 4: Data Visualization for EDA

- Visualizing distributions and relationships
- Handling outliers and missing data
- Histograms, boxplots, and violin plots
- Correlation matrices and heatmaps
- Using ggpubr for quick insights
- **Case Study**: EDA on public health dataset

Module 5: Time Series and Geospatial Visualization

- Plotting time-series data with ggplot2 and plotly
- Handling dates and timestamps
- Working with map data in R
- Visualizing geospatial patterns using sf and leaflet
- Animations with gganimate
- **Case Study**: COVID-19 trends and map visualizations

Module 6: Integrating with Machine Learning Pipelines

- Visualizing model performance
- ROC curves, confusion matrices
- Feature importance visualization
- Cross-validation and training history plots
- Visualizing clusters and decision boundaries
- **Case Study**: ML model visual diagnostics in finance

Module 7: Reporting and Automation

- R Markdown for automated reports
- Knitr for reproducible documents
- Embedding visualizations in reports
- Creating parameterized reports
- Automating EDA reporting scripts
- **Case Study**: Automated sales report generation

Module 8: Best Practices and Ethical Considerations

- Choosing the right chart type
- Avoiding visual distortion and bias
- Accessibility in visual design
- Color theory and visual perception
- Ethical storytelling with data
- **Case Study**: Ethical misrepresentation in data journalism

Training Methodology

- Instructor-led interactive sessions
- Hands-on coding workshops using RStudio
- Real-world case study discussions

- Group activities and peer feedback
- Access to downloadable resources and datasets
- Practical assignments and quizzes for mastery

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

Start Date	End Date	Location	Price
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