Visual Analytics with AI Training Course

Professional Development Training Course Outline

Category	Business Intelligence	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Visual Analytics with AI Training Course is designed to empower professionals with the skills to transform complex datasets into actionable insights. Leveraging artificial intelligence and machine learning algorithms, this course enables data-driven decision-making through interactive dashboards, predictive analytics, and intuitive visualizations. Participants will gain hands-on experience in modern BI tools, AI frameworks, and visualization techniques to enhance business intelligence and strategic planning. This course bridges the gap between data science and visualization, ensuring organizations achieve faster, smarter, and scalable solutions.

The training focuses on real-world applications, combining statistical methods, AI-powered analytics, and interactive data storytelling. Professionals will learn to integrate large-scale datasets, perform predictive modeling, and create insightful visual reports that drive performance and efficiency. By mastering Visual Analytics with AI, participants will become proficient in uncovering trends, detecting anomalies, and presenting insights in a visually compelling way that enhances organizational decision-making.

Programme Curriculum

Visual Analytics with AI Training Course

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Course Objectives

1. Understand the fundamentals of visual analytics and AI integration
2. Learn data preprocessing and cleaning techniques for robust analysis
3. Explore predictive analytics and AI-driven forecasting
4. Implement interactive dashboards using leading visualization tools
5. Apply machine learning algorithms for pattern recognition
6. Integrate multiple data sources for unified analytics solutions
7. Gain expertise in real-time data visualization
8. Learn anomaly detection using AI techniques
9. Master storytelling through data visualization
10. Apply visual analytics in business intelligence scenarios
11. Optimize workflows with AI-assisted data insights
12. Analyze trends and identify strategic opportunities
13. Develop hands-on projects and case studies for practical learning

Organizational Benefits

- Enhance data-driven decision-making across departments
- Improve operational efficiency through AI-powered insights
- Foster a culture of analytical thinking and innovation
- Enable predictive modeling for future planning
- Streamline reporting and visualization processes
- Reduce errors and improve accuracy in data analysis
- Increase ROI by uncovering actionable business insights
- Support agile decision-making with real-time dashboards
- Empower teams with self-service analytics capabilities
- Strengthen competitive advantage through advanced analytics

Target Audiences

1. Data Analysts
2. Business Intelligence Professionals
3. Data Scientists
4. IT Professionals
5. Business Managers
6. AI/ML Engineers
7. Decision-makers and Executives
8. Researchers and Academicians

Course Duration: 10 days

Course Modules

Module 1: Introduction to Visual Analytics and AI

- Overview of visual analytics and AI trends
- Importance of data visualization in business
- AI integration in analytics workflows
- Tools and platforms for visual analytics
- Case study: AI-driven dashboard for retail analytics
- Hands-on activity: Creating first visual report

Module 2: Data Preprocessing and Cleaning Techniques

- Understanding raw data challenges
- Data cleaning methods for accuracy
- Handling missing values and outliers
- Feature selection and engineering
- Data normalization techniques
- Case study: Cleaning and preparing e-commerce datasets

Module 3: AI-Driven Predictive Analytics

- Introduction to predictive modeling
- Regression and classification techniques
- Time-series forecasting with AI
- Model evaluation and performance metrics
- Use cases in business and finance
- Case study: Sales forecasting with AI models

Module 4: Interactive Dashboards and Reporting

- Dashboard design principles
- Visual storytelling with AI insights
- Integration with BI tools (Power BI, Tableau)
- Interactive filters and drill-downs
- Performance optimization of dashboards
- Case study: Executive dashboard for operational monitoring

Module 5: Machine Learning for Pattern Recognition

- Supervised and unsupervised learning
- Clustering and segmentation techniques
- Predictive pattern recognition
- Dimensionality reduction methods
- Model deployment in analytics platforms
- Case study: Customer segmentation using ML

Module 6: Multi-source Data Integration

- Connecting and merging data sources
- APIs and real-time data streaming
- Database and cloud integration strategies
- Data consistency and quality checks
- Building a unified analytics framework
- Case study: Integrating CRM and sales data

Module 7: Real-Time Data Visualization

- Streaming analytics overview
- Real-time dashboards and monitoring
- Alerts and anomaly detection
- Optimizing visuals for dynamic data
- Use cases in IoT and operations
- Case study: Real-time traffic monitoring dashboard

Module 8: Anomaly Detection using AI

- Identifying unusual patterns in data
- Statistical vs AI-based approaches
- Applications in fraud detection
- Model validation and tuning
- Visualization of anomalies
- Case study: Financial fraud detection system

Module 9: Data Storytelling and Communication

- Principles of effective data storytelling
- Choosing the right visuals for insights
- Narratives for business presentations
- Visual hierarchy and dashboard layout
- Enhancing comprehension with AI insights
- Case study: Investor pitch deck with AI analytics

Module 10: Advanced Visualization Techniques

- 3D and geospatial visualization
- Heatmaps, network graphs, and infographics
- Custom visual development with AI
- Interactive maps and drill-downs
- Combining multiple visualization types
- Case study: Geo-analysis of sales performance

Module 11: Workflow Optimization with AI Insights

- Automating repetitive tasks in analytics
- AI-driven recommendations for decision-making
- Optimizing data pipelines
- Collaborative dashboards for teams
- Monitoring KPIs using AI
- Case study: Supply chain workflow optimization

Module 12: Trend Analysis and Strategic Insights

- Market trend identification
- Predictive vs prescriptive analytics
- Competitive analysis through AI
- Scenario planning and forecasting
- Performance benchmarking

- Case study: Retail trend prediction dashboard

Module 13: Hands-on Project 1

- Defining the project scope
- Dataset exploration and preprocessing
- AI modeling and visualization
- Dashboard creation and insights presentation
- Feedback and iterative improvement
- Case study: End-to-end retail analytics project

Module 14: Hands-on Project 2

- Integrating multiple datasets
- Advanced AI techniques application
- Interactive dashboard deployment
- Anomaly detection and pattern insights
- Team-based presentation of findings
- Case study: Real-world operational analytics

Module 15: Capstone Project and Certification

- Final project planning and execution
- Applying all learned modules
- Peer review and feedback session
- Presentation to panel for assessment
- Certification criteria and award
- Case study: Comprehensive business analytics solution

Training Methodology

- Interactive instructor-led sessions with live demos
- Hands-on exercises with real-world datasets
- Collaborative group activities and discussions
- Step-by-step guidance on AI modeling and visualization
- Case studies to analyze real business scenarios
- Continuous assessment with feedback on projects

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	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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