

# Matplotlib & Plotly Data Visualization Guide

## Introduction

This guide covers two powerful Python libraries for data visualization:

**Matplotlib** – Best for static visualizations

**Plotly** – Best for interactive, web-based visualizations

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## 1 Matplotlib Overview

Matplotlib is the most widely used library for static visualizations.

### Features

- ✓ Highly customizable
- ✓ Works with NumPy & Pandas
- ✓ Can generate various charts

### Use Cases

Stock market trends  
Scientific research  
Financial analysis

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## 2 Plotly Overview

Plotly is an interactive visualization library suitable for web applications.

### Features

- ✓ Fully interactive charts
- ✓ Web-based visualizations
- ✓ Works with Pandas

### Use Cases

Interactive dashboards  
Real-time data visualization  
Business intelligence

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### 3 Comparison Table: Matplotlib vs. Plotly

Feature	Matplotlib	Plotly
Customization	Highly customizable	Pre-configured themes
Interactivity	Limited	Fully interactive
Ease of Use	Requires more code	Easier UI
Performance	Works with large datasets	Best for web-based visuals