OmniQuant AI Demo Notebook 🚀

This notebook demonstrates the **OmniQuant AI trading agent**:

- Market regime detection
- Strategy selection
- Signal generation
- Backtesting visualization

In [1]:
```
import sys
import os

# Add the parent directory to the Python path so imports work
sys.path.append(os.path.abspath('..'))

import pandas as pd
import numpy as np
from strategy import OmniQuantAI
from utils.plotting import plot_signals

# Load sample data
data = pd.read_csv('../data/sample_data.csv')
data['Date'] = pd.to_datetime(data['Date'])
data.set_index('Date', inplace=False)
data.head()
```

```
Matplotlib is building the font cache; this may take a moment.
```

Out[1]:

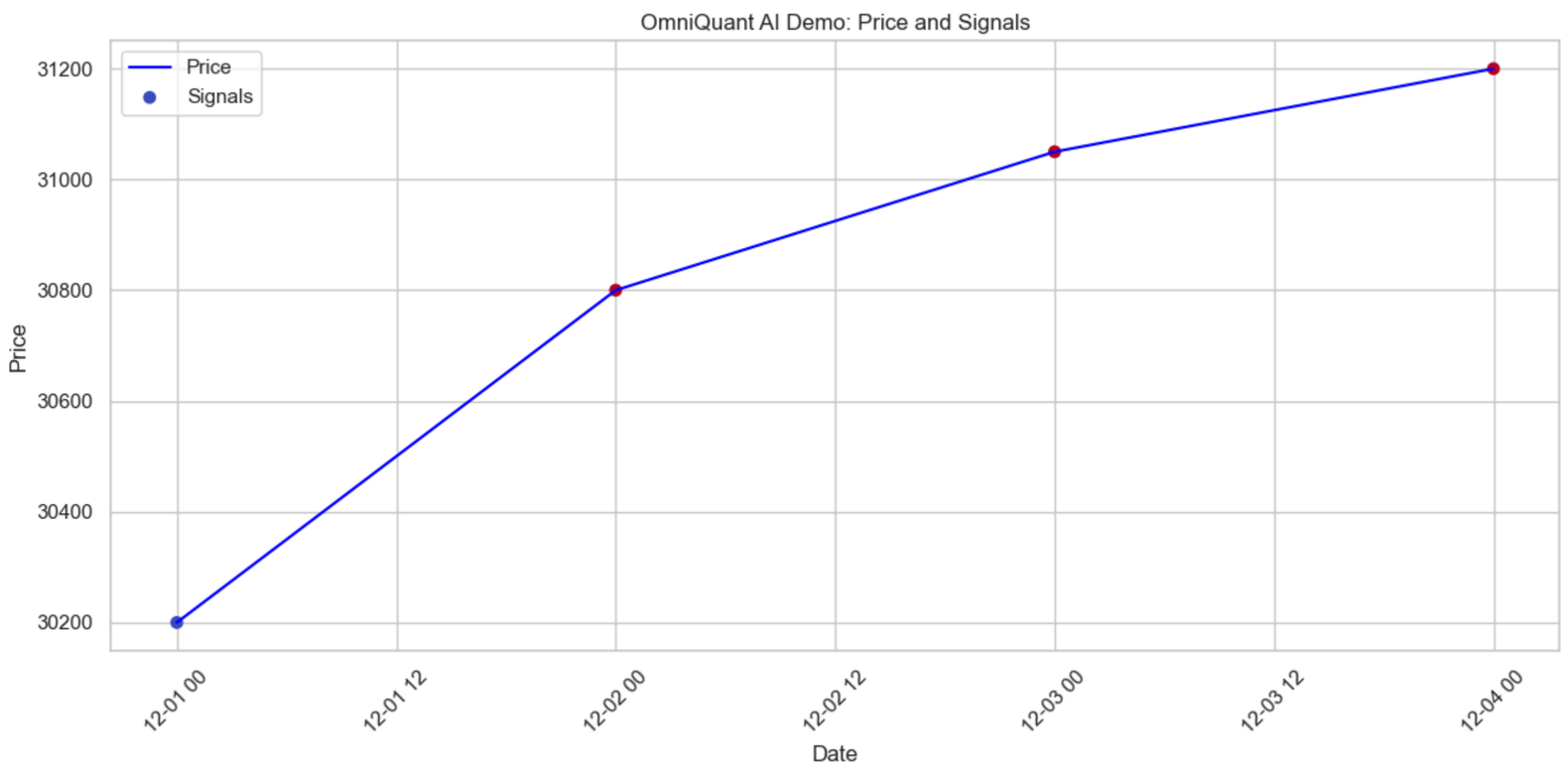
	Date	Open	High	Low	Close	Volume
0	2025-12-01	30000	30500	29500	30200	1000
1	2025-12-02	30200	31000	30000	30800	1200
2	2025-12-03	30800	31200	30500	31050	900
3	2025-12-04	31050	31500	30800	31200	950

In [2]:
```
# Initialize AI Agent
agent = OmniQuantAI()

# Generate trading signals
signals = agent.generate_signals(data)

signals[:10]
```

```
Detected Regime: Stable, Selected Strategy: Trend Following
```

Out[2]:
```
0    0.0
1    1.0
2    1.0
3    1.0
Name: Close, dtype: float64
```

In [3]:
```
# Plot signals with price
plot_signals(data, signals, title='OmniQuant AI Demo: Price and Signals')
```



Notes

- The signals are generated based on a simple AI agent detecting market regimes.
- This demo uses sample historical data; it can be replaced with real market data.
- The notebook is modular and can be extended for backtesting and live trading integration.