# Glossary of Classes and Functions

## QuoteData

Represents basic quote data for a stock including bid, ask, last price, and previous close.

## QuoteData.mark_price

Calculate the mark price as the midpoint between bid and ask.

## QuoteData.net_change

Calculate net change in price from previous close to last price.

## QuoteData.percent_change

Calculate percentage change from previous close to last price.

## OptionData

Represents option-specific data and calculations including strike price, option price, days to expiration, bid/ask prices, and risk metrics.

## OptionData.mark_price_option

Calculate option mark price as midpoint between bid and ask.

## OptionData.intrinsic_value_call

Calculate intrinsic value for a call option.

## OptionData.intrinsic_value_put

Calculate intrinsic value for a put option.

## OptionData.extrinsic_value

Calculate extrinsic (time) value of the option.

## OptionData.covered_return

Calculate covered call return annualized based on extrinsic value and mark price.

## OptionData.return_on_capital

Calculate return on capital for the option position.

## OptionData.return_on_risk

Calculate return on risk for the option position.

# Glossary of Classes and Functions

## VolatilityData

Handles volatility data including front/back implied volatilities, time periods, and last price.

## VolatilityData.volatility_difference

Calculate difference between front and back volatilities.

## VolatilityData.weighted_back_volatility

Calculate weighted back volatility using squared volatilities and time periods.

## VolatilityData.norm_cdf

Compute normal cumulative distribution function at x.

## VolatilityData.expected_move

Calculate expected move based on volatility.

## VolatilityData.front_expected_move

Expected move for front period volatility.

## VolatilityData.back_expected_move

Expected move for back period volatility.

## VolatilityData.expected_move_difference

Difference in expected move between periods using weighted back volatility.

## VolatilityData.market_maker_move

Calculate market maker expected move.

## FundamentalData

Represents fundamental stock data such as earnings per share, dividends, shares outstanding.

## FundamentalData.pe_ratio

Calculate Price-to-Earnings (P/E) ratio.

## FundamentalData.dividend_yield

Calculate dividend yield annualized based on frequency.

## FundamentalData.market_cap

# Glossary of Classes and Functions

Calculate market capitalization.

### VolumeData

Represents volume-based data such as put-call ratio.

### VolumeData.put_call_ratio

Calculate put-call volume ratio.

### HistoricalData

Handles historical price data and volatility calculations.

### HistoricalData.historical_volatility

Calculate annualized historical volatility from log returns of closing prices.

### StockAnalyticsAggregator

Aggregator class to combine data types and run analytics.

### StockAnalyticsAggregator.__init__

Initialize aggregator with all relevant data objects for a stock.

### StockAnalyticsAggregator.evaluate

Evaluate all available analytics for the stock and return results dictionary.

### StockAnalyticsAggregator.compute_risk_score

Calculate simple risk score based on return_on_risk and historical_volatility.

### StockAnalyticsAggregator.compute_custom_risk_score

Calculate custom risk score based on weighted metrics.

### StockAnalyticsAggregator.compute_trade_signal

Generate trade signal based on RSI and put-call ratio.

### StockAnalyticsAggregator.batch_evaluate

Evaluate a batch of stocks given a dictionary of symbol -> data objects.

### StockAnalyticsAggregator.summary_report

Generate a summary report with average and top performer for each numeric metric.

# Glossary of Classes and Functions

## StockAnalyticsAggregator.export_to_csv

Export the batch evaluation results to a CSV file.

## StockAnalyticsAggregator.export_to_json

Export the batch evaluation results to a JSON file.