**Financial Python Bootcamp**

This financial bootcamp covers topics important for the implementation of automated, algorithmic trading strategies.

This bootcamp covers, among others:

* pandas basics
* object-oriented programming basics
* data scraping
* backtesting of trading strategies
* working with streaming data
* automtated placement of buy/sell orders

You need accounts for [plotly](http://plot.ly/" \t "_blank) and [Oanda](http://oanda.com/" \t "_blank).

**Introduction and Overview**

This module gives an overview of the contents of the bootcamp.

This Financial Python Bootcamp uses Python for some typical tasks encountered in a trading environment, e.g. by quantitative analysts, traders, risk managers, model validators and developers in

* banks,
* investment banks,
* asset managers,
* hedge funds

or someone working for such a financial institution (e.g. in a consulting capacity).   
  
The **focus** of the bootcamp lies on

* pandas usage for data and financial analysis,
* OOP approaches for backtesting
* data scraping and strategy backtesting and
* real-time streaming, plotting and trading.

**pandas Basics**

This module introduces to pandas.

Slide Type This module introduces pandas, in particular it covers the following topics:

* pandas DataFrame Objects
* pandas plotting
* financial time series
* basic analytics & vectorization

**OOP Basics**

This module introduces object oriented programming paradigms in Python.

This module introduces object oriented programming with Python. Topics are:

* OOP basics
* financial classes
* vectorized backtesting with pandas
* event-based backtesting with classes

# Scraping Historical Data from Oanda

This module shows how to set up an Oanda account and how to scrape historical data.

This module is about financial data scraping with the Oanda API.

**Strategy Backtesting**

This module covers simple strategy backtesting, optimization and in- vs. out-or-sample backtesting.

This module is about the backtesting and optimization of (formal/quantitative) trading strategies. It covers:

* simple backtesting approaches
* optimization of trading strategies
* in- vs. out-of-sample backtesting

**Streaming Plots with plotly**

This module works with streaming data for live plotting.

This module addresses the following areas:

* Basic plotting with Plotly
* Working with Streaming data
* Streaming plots with Plotly
* Plotting Real-Time Data from Oanda

# Automated Trading with Oanda

This module shows how to automatically place buy/sell orders based on technical signals.

This module develops and uses an Automated Trading Class for trading on the Oanda platform. It also has a look at historical transaction data.