

# International Portfolio Holdings. Streamlining Morningstar Mutual Fund Data

Keywords: International Stock Market Data, API Integration, Automation, Morningstar

## Project description

The performance of active mutual funds has been of long-standing interest for financial research. There are various factors, which affect the performance of active funds in comparison to its passive benchmark ranging from investment constraints to the raw skills in identifying investment opportunities (Pastor et. al, 2015). Extracting data on international mutual funds using Morningstar Direct can be time-consuming and inflexible, as data needs to be downloaded manually. With increasing volume of financial market data, there is a pressing need for more efficient methods of data extraction and analysis.

This project aims to address this challenge by developing an automated tool for the extraction of mutual fund holdings from Morningstar Direct using Python. This tool will replace the current manual extraction method, offering a more efficient, flexible, and reliable solution for data retrieval.

The student will begin by familiarizing themselves with the Morningstar Analytics Lab, understanding its structure, capabilities, and how it can be utilized to extract mutual fund data. Following this, the student will design and develop a codebase in Python that interfaces with the Analytics Lab to automate data extraction tasks. The code will be designed with usability in mind, ensuring that it is easy for users to operate and adapt. This includes adding new variables for download or modifying the frequency of data retrieval.

Furthermore, the student will analyze the mutual fund data to gain insights for financial research. These may cover, for example in which industries or countries mutual funds invest, the underlying strategy of the fund like investing in growth vs. value stocks or the overall risk of the fund.

Throughout the project, the student will work closely with the supervisor, receiving guidance on project milestones, and best practices in financial data extraction and software development. The successful completion and documentation of this project will not only enhance the efficiency and effectiveness of mutual fund data retrieval but also contribute valuable insights and tools to researchers in asset pricing.

## What we are looking for

- Strong analytical and project management skills
- Determination and passion for your areas of expertise
- Good Python programming skills
- Interest to work at the intersection of finance and IT
- 1 or 2 persons

## What we offer

- Knowledge in quantitative finance, corporate finance and machine learning
- Kick-off session including introduction to relevant finance and/or business topics
- Experience with IDPs
- Open dialogue and support
- Access to prime capital markets databases (Bloomberg, Datastream, Thomson Reuters, etc)
- Potential for publication and/or evaluation of future use cases
- Both single and group projects are possible

## Interested?

Please send an e-mail with CV, academic transcript and your preference for this project to [sebastian.mueller.hn@tum.de](mailto:sebastian.mueller.hn@tum.de)

## Questions?

In case of any (e.g. topic related) questions, please contact Sebastian Müller ([sebastian.mueller.hn@tum.de](mailto:sebastian.mueller.hn@tum.de))

## References

Pastor, Lubos, Stambaugh, Robert F. and Taylor, Lucian A. (2015). "Scale and Skill in Active Fund Management" In Journal of Financial Economics , (116), p. 23-45.

Morningstar Analytics Lab Documentation: [https://docs-analyticslab.morningstar.com/latest/morningstar\\_data.html](https://docs-analyticslab.morningstar.com/latest/morningstar_data.html).