Workshop 1: Forecasting with Temporal Hierarchies

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Forecasting with Temporal Hierarchies (THieF) is a relatively new method in time series forecasting. Initially we introduced it as a tool to improve forecast accuracy, irrespective of the selected forecasting models. Nonetheless, THieF goes beyond due to its connections (i) with hierarchical forecasting from a technical perspective, and (ii) with decision making from an organizational perspective, as it connects short- and long-term projections and plans.

In this workshop we revisit the foundational idea behind THieF: the use of multiple temporal aggregation levels to extract information from time series and mitigate modelling uncertainty. Building on existing literature and ongoing research, we take a critical view on what it can do and what it cannot do, its connections with hierarchical forecasting, and where it goes beyond that, as well as common fallacies in the discourse.

The workshop will focus on:

- How to implement and use THieF in your work, with step-by-step examples in R.
- Connections of the work in temporal hierarchies with other research areas in modelling, to help us build a deeper understanding of why and how it works (or not!)
- Current directions in the research and open questions.

The workshop is useful for both researchers and practitioners, giving you guidelines of when and how to use these tools, current limitations, and opportunities. The aim is to give a personal flair, building on my contributions to this research since its inception, and ideas that never made it to light, leading to its current form.