

IRP 14: Individual Research Project

Topic

Challenges and opportunities for the uptaking of technological development by industry

Objectives

The building blocks of any institutional investor's loan portfolio are cash flows. Using public and proprietary data, the doctoral candidate will conduct research and **develop a machine learning tool** capable of **performing grouped time series forecasting on a private debt portfolio** spanning multiple geographies, sectors, and whose features can also be grouped at other levels, such as loan amount and interest rate. In our innovation-driven industry, we analyse the obstacles and opportunities associated with adopting technological advances.

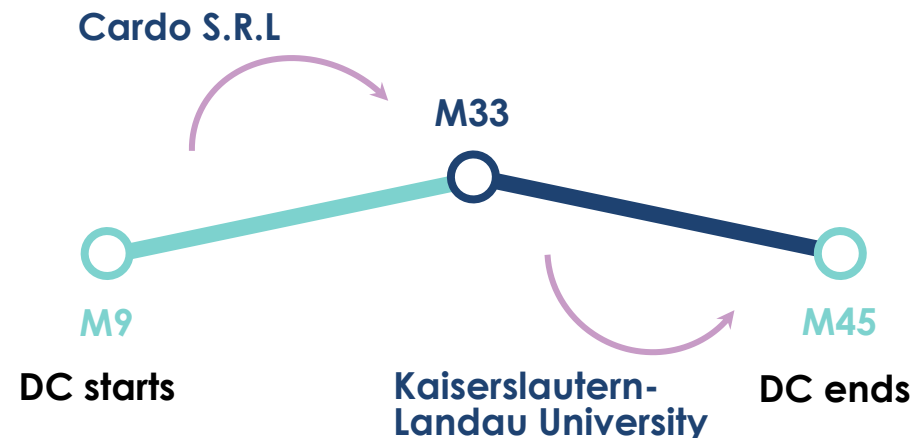
Involvement

- IRP belongs to WP2 (AI for financial markets)
- WP Leader: WWU (Vienna)
- One supervisor from secondments: UKL

Deliverables

The project's outcomes will contribute to the expanding body of knowledge concerning the applications of cutting-edge machine learning and artificial intelligence techniques to traditional financial problems. Specifically, the first phase of the project will concentrate on **missing value imputation for loan payment time series**, while the second phase will adopt a more general predictive approach, that of **grouped time series forecasting**, possibly incorporating the first step. The anticipated outcome will be three research/conference papers describing the data analysis, modelling approaches, and experimental results.

IRP 14 **TIMELINE**



Contribution to the theoretical and applied expertise in machine learning, times-series forecasting and credit portfolio analysis



DIGITAL