

IRP 5: Individual Research Project

Topic

Fraud detection in financial networks

Involvement

- IRP belongs to WP4 (Blockchain applications)
- WP Leader: HUB (Berlin)
- Two supervisors from secondments: RAI, and ECB

Objectives

Detecting fraud is currently one of the most important topics in Finance. However, it is also one of the most complex, given that fraudsters typically represent and generate a highly dynamic system, requiring that the boundaries and objectives of any **system designed to detect and reduce fraud** be **constantly adapted to new extrinsic structures**. This enables the definition of not only a static fraud detection system, but also a **dynamic AI learning system**, particularly in relation to network analysis.

Deliverables

On a meta-level, a set of Machine Learning and Artificial Intelligence models will be defined to **enable a research-based approach that can be applied directly in financial institutions**. The models are defined in such a way that the outcomes of the learning process within the institutions can be used to define and **design new algorithms from a scientific standpoint**. The work on **network algorithms** during the process of designing Machine Learning environments, will result in the publication of seminal papers.

