Bank fraud is the use of potentially illegal means to obtain money, assets, or other property owned or held by a financial institution, or to obtain money from depositors by fraudulently posing as a bank or other financial institution. In many instances, bank fraud is a criminal offence.

The traditional approaches to identifying fraud have been rule-based. That means that hard and fast rules for detecting fraud have been established manually and in advance. But this system is inflexible and inevitable results in an arms race with fraudulent staff and counterparties, where the bank is almost always the second winner.

The desired alternative is to leverage the vast amounts of data that can be collected from transactions / monitoring information and model it in a way that allows to flag or predict fraud in future transactions. The challenge is to predict fraud patterns even before actual, observed fraud events have taken place and to incorporate evasive actions (i.e. fraudulent staff adapting to monitoring and fraud detection) into the fraud detection mechanism.

Ultimately, a process and account level fraud detection system based on data science and machine learning approaches would continuously update the underlying set of fraud detection rules. The goal of the thesis is to develop such a system in cooperation with XacBank.

Requirements: Selection of fraud categories and development of Dynamic Fraud Detection Model, implementation and empirical validation of the implemented model.

Prerequisites: Background in data science and machine learning; programming skills. Willingness to travel for on-site work to Mongolia (flight cost covered and visa assistance provided).

For more information, please contact Prof. Eyke Huellermeier (eyke@upb.de).

About XacBank

Since its founding in 2001, XacBank has created sustainable growth in banking and financial sector of Mongolia, continuously expanding operations, and is one of the systemic banks.

XacBank’s vision is to become a preferred bank for a wide range of customers in the financial market providing financial solutions in the most convenient way being dedicated to its values of People, Planet and Prosperity and continuing to set high standards in corporate governance and social responsibility.

For more information, please refer to https://www.xacbank.mn/page/about.