

Why not join Rabobank GCM Solutions for your Master's project?

What does the team do?

GCM solutions is the multipurpose tool of Group Credit Models (GCM). This team employs a range of people who have to do everything from programming , analytics, stakeholder management to project management. We work on a variety of special projects: Creditcore, Climate risk, Model risk KPIs and the project you'll be involved with: Early warning signals. Due to the nature of our team being the catchment area for various projects which does not fit into traditional banking or credit risk category, it is the ideal place to get exposure to many different areas in the bank and building a valuable network.

What is the question to be solved?

Currently we are working on a project in which we are creating Early Warning Signals (EWS). The aim of an early warning signal is to flag a client of the bank which might be deteriorating in credit risk.

To state this plainly- how do we predict a default on a client a full year before it happens?

The idea is that if a client has been banking with Rabobank for some time, (i.e. we have information and data on this client) and we can gather data about the market that this client operates in (e.g. Farming in Australia with cattle) ; how can Rabobank use this data to flag clients who might be heading for default a year from now?

The idea is that we will create various EWS and combine them to provide us a holistic view of the probability that a client will enter financial difficulty or default over the next 12 months.

..but what would be your role in this analysis?

Here there are two options:

1. We would like you to help us by figuring out the best ways & methods to continuously update and optimize the triggers & how they combine into a model.

If you think of back testing and monitoring the EWS system- how can we link the triggers to data and build an AI/ neural network model which

- automatically update EWS parameters to reduce false positives rate at certain timestamps (in a way which we can trace and monitor for auditing purposes)
- Optimise how we combine different EWS in the ultimate EWS system to optimize optimal true positives rate. Is this a model of different triggers (Early signals) ? Is there benefit in the order in which triggers (Early warning signals) are implemented? What method/ optimisation can be used to find the optimal point of the combinations of EWS models.
- How does this change and update when a new trigger is added to the combination.

OR

2. Create new insights into how different variables interact with each other and how to create new triggers. (i.e. on its own something like a slighter commodity drop might not be significant, but if it is paired with droughts and increased transactional spending it could be).
 - What is the best way to build a features. Indexes/ ratio/ time series – what is the best way to compare the methodology around building an Early warning signal. (Numerical/ categorical/ quant/ qualitative etc.)
 - And how do we monitor these different types of triggers in a consistent way. What predictiveness/accuracy measure over time works for numerical/categorical/qualitative triggers?
 - Once an EWS is created, how do we make a portfolio EWS for example a trigger on commodity prices, specific to an individual farmer. How do we trigger only the few individuals which are at risk for the said trigger, instead of the whole portfolio who farms with the specific commodity in that region.

What do we offer you in return?

Except for the satisfaction of completing a leading industry question and gaining insight into a global bank, we will also:

- Remunerate you €500.00 a month
- All travel expenses to and from work will be reimbursed.

Which tools do we use?

The tools that are used are:

- Python to perform analyses
- SQL to gather and transform data
- Word/PowerPoint/ PowerBi to share results/info

What would your environment look like?

In GCM solutions we appreciate variety and how different backgrounds and thinking could challenge us to deliver the best product. The team construct reflects this and consists of a few South Africans, Chinese, Cambodian, and Dutch people. We are a team who can appreciate 'gezelligheid' during lunch and know how to laugh.

Interested?

Please send your CV and a motivational letter to :
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