



Company: Wise Plc

Knowledge Transfer Partnership: Developing a predictive model of financial customer behaviour, to improve customer products and mitigate risk.

Wise Plc is a financial services and technology company focusing on making international money transfers cheap, fair, and simple. Their multi-currency account helps over 11 million people and businesses manage their money across the world.

Challenge

Wise was looking for a better understanding of its customer base. With current insights limited to transactions alone, it was hard to identify the best products for customers and to see where improvements could be made, or new services or products created. They also wanted to model and gain an early estimate of the lifetime value of new customers, which would allow them to compare the expected revenue from customers recruited through different marketing channels, and target their marketing spend more efficiently and effectively.

Working with international currencies and offering a fixed rate that is locked-in for a few hours, they also wanted to establish which customers were taking advantage of those offers to manage risk and mitigate losses. The team identified a form of mathematical modelling (autoencoders and Bayesian statistics) as an ideal way to analyse the large and complex data at Wise to make predictive models. However, designing, training, and tuning these models is a highly specialised skill set that is not

sufficiently available at Wise, which is where Queen Mary's expertise was required.

Process to Solution

Alex Shestopaloff is a Lecturer in Statistics at the School of Mathematical Sciences at QMUL. He is an expert in the development and application of statistical computing, in particular Bayesian inference methods. Alex's skills were a natural fit to Wise's project and provide the foundation needed to gain accurate insights from unpredictable customer behaviours.

Wise has already implemented an early, precursor of the model on their customer data which will enable them to learn and grow their skillset alongside the product development by Dr Shestopaloff. This will ensure improvements in analyses and provide invaluable feedback on problems and potential improvements, to refine the finished software and products.

Impact

The model source code will be made open source, freely available to the public at no charge which will be of huge gain to other

industries who need analyse their data in deeper ways. Wise will also benefit hugely from Queen Mary's training on the new code and model use, with company-wide workshops that will transfer the knowledge to target teams. Scientific findings will be of benefit to the academic community and other retail-facing businesses well into the future.



"This project allows us to explore modelling approaches that would have been too long-term and technically advanced to be done purely within Wise. The expected impact on the business is substantial, and the discussions around the project are already broadening the horizons of Wise's data scientists."



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