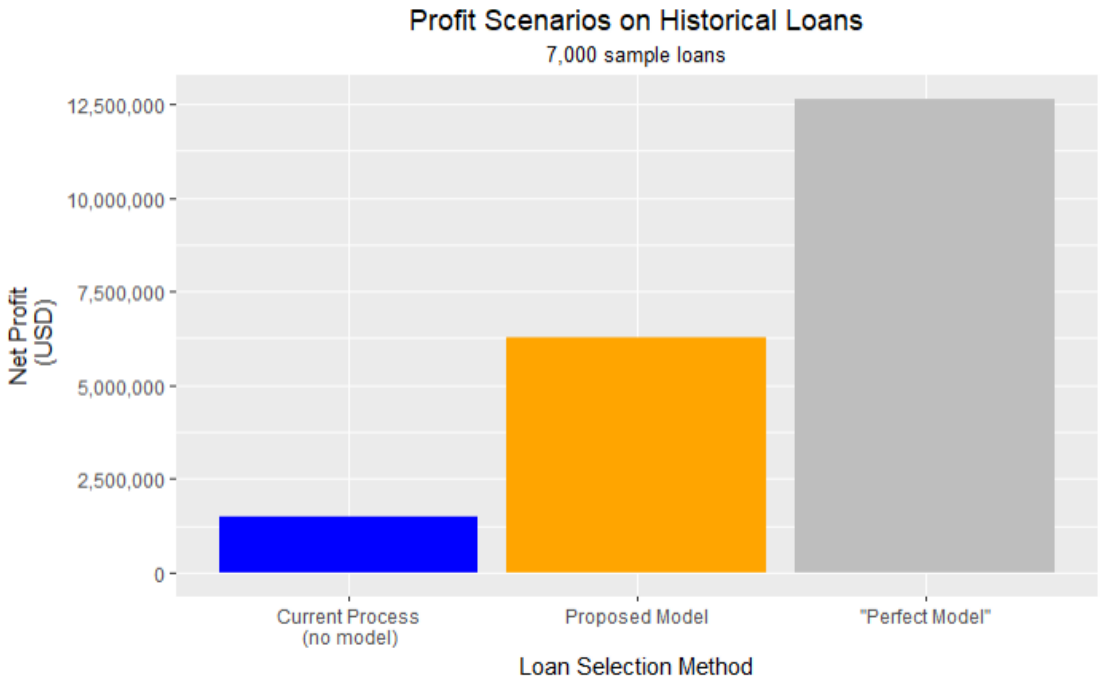
May 8, 2018

Increase net profit through statistical modeling

A statistical modeling approach to the loan application selection process will increase our future loan business's net profit by **334%**. We recommend the immediate deployment of this model to operations and continuous research efforts to further improve results.

We developed a statistical model that observed approximately 43,000 loans that our company previously accepted to identify patterns and relationships across our loan applicants. Both loans that ended in default and loans that turned out profitable were in this sample. We then tested the model on a different sample of 7,000 loans. This sample of 7,000 loans provided us with about **$1.5 million** in net profit in the past. Had we deployed the statistical model on our loan acceptance profit, we estimate net profile would have been **$6.5 million**.

The statistical model acts as a filter by aiming keep out bad loans and let good loans pass through to our business. The model can provide us with a significant improvement over our current loan acceptance process by automatically analyzing each loan as it reaches our systems.



The "perfect" model (one that would let all good loans in and keep all bad loans out) would have provided us with **$12.5 million** in net profit. Our model will occasionally filter a good loan, and let a bad loan in. Thus, there is significant value and opportunity in continued research in the statistical modeling of our loan business.

Signed,

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