Banks process over a million Home Equity Line of Credit **applications** every year, Yet, nearly 20% of them either delayed or rejected due to outdated manual reviews.

But what if we could change that? What if HELOC **approvals** could happen with better accuracy, fairness, and transparency? That’s exactly what we did with our machine learning model.

With machine learning, we can cut costs and speed up HELOC approvals—going from days to just minutes. it can analyze thousands of applications with consistency, reducing human error and bias. Plus, AI-generated explanations ensure transparency, so applicants understand their decisions instantly.

So, how do we achieve this?

Our prediction task is a classic binary classification problem: We want to determine whether a HELOC application should be approved or denied.

As we’ve discussed earlier, our model must boost efficiency by cutting down manual processing time. But speed alone isn’t enough—fairness and transparency are also as critical.

For banks, an acceptable performance level typically means 85%+ accuracy and strong recall to ensure fairness. And most importantly, if an application is rejected, our system doesn’t just say ‘no’—it provide personalized feedback on why and how applicants can improve their chances next time.