MORTGAGE RATE FORECASTING

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Online modern financial advising platforms have been enjoying an increased popularity over the last decade. Their main goal is to utilize data science capabilities to help their customers make financial decisions at every stage of life. This poster will present a mortgage rate forecasting model for an online financial advising startup. The startup’s business model is rather simple: the company makes revenue by being a lead generator, i.e., by directing potential customers from its site to the site of a bank who will then give out the loan. By accurately predicting what the mortgage rate will be in the future and relaying that information to customers, the company will increase the total leads generated, therefore increasing its revenue. The goal of the project is to build a model to predict the 30-year fixed mortgage rate, 15-year fixed mortgage rate, and 5/1 arm mortgage rate, 4 periods into the future. The project accomplishes this by utilizing classical techniques (regression, smoothing, Box–Jenkins) and modern machine learning techniques models (xgboost, RNNs, LSTM).