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COS470

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Time Series Neural Networks and The US Housing Market

This project was initially proposed as a coding project.

Introduction

Methods

The methods for creating this project included gathering data, building the neural network, implementing LSTM, configuring the learning rate, training the model, modifying the network, and analyzing the results. Since the experience level with neural networks was quite low, a lot of time was dedicated to refining each method. For instance, there are many ways of implementing time series prediction neural networks and it was not evident which type of implementation was needed to get the best results. As a result, three different networks were built using different methods for LSTM layers, windowing, and optimization.

Data Collection

To create this time series prediction, we needed to procure enough data to train our model. We discovered that most time series predictions contained over a quarter of a million data points across multiple features, and the amount of data becomes more important as the complexity of the model grows. A large aspect of this project was data gathering. It is also important to gather data that is relevant to what we are predicting.

Neural Network

LSTM

Learning Rate

Problems

Discussion

Bibliography

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