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U of Richmond: Data Bootcamp

Week 21 Challenge

Deep Learning Challenge

The module 21 Challenge was an activity related to creating a deep learning application that assessed categorical data to determine whether certain applicants should receive loan approval.

**Data Preprocessing**

The target variable for the model was the IS\_SUCCESSFUL column which is interpreted as if the money was sued effectively or not. The EIN and NAME columns were removed from the dataset when creating the model since these two columns were primary used for identification purposes and therefore not a usable feature. All other columns were used as features. The SPECIAL\_CONSIDERATIONS column was a Boolean column that could of potentially been dropped as it is neither a feature or target

**Model Description/Performance**

The model used a total of 3 layers that used activations relu/relu/sigmoid functions respectively. The total neurons nodes contained in the model was 19. An epoch’s range of 50 was set as any more appeared to have an overfitting problem as well as very minor upside for the extra processing power being used. Different numbers of epochs and neuron nodes were tried in order to achieve the target goal, however, the desired 75% threshold was not reached.