

Foundations of Deep Learning

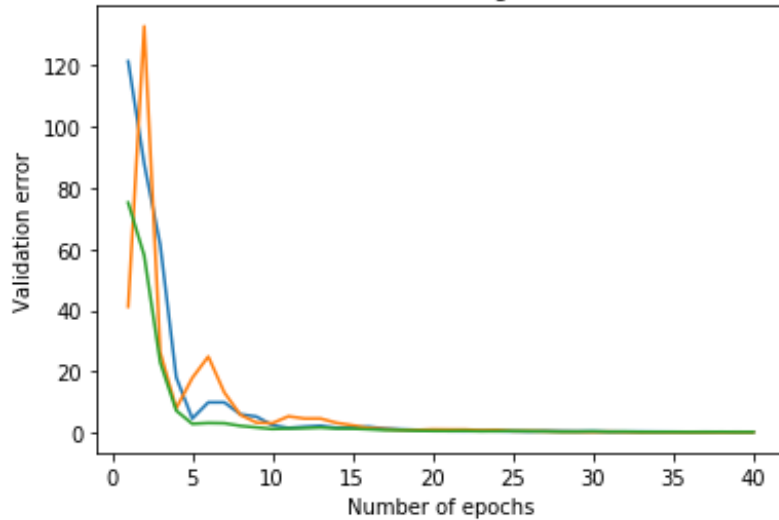
Final Project

Keyu Qi, Huaixin Luo, Jizhou Xie
WS 2017/18

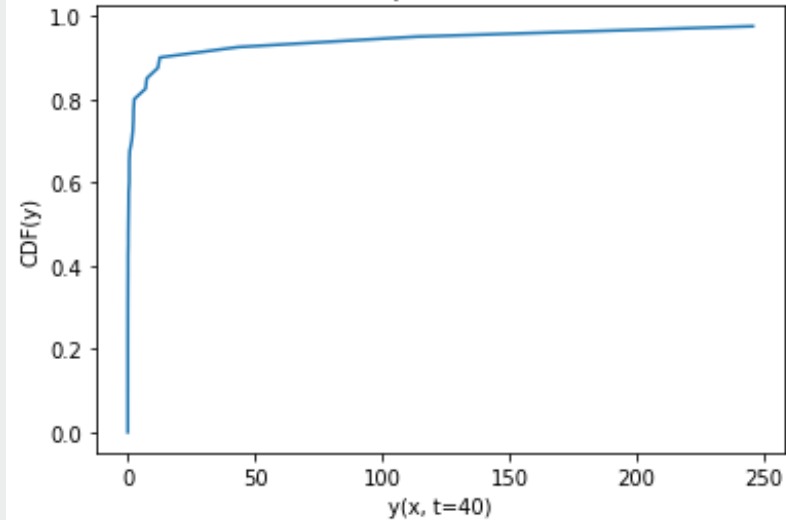
Computer Science Department
University of Freiburg

MLP for the prediction

Subset of learning curves



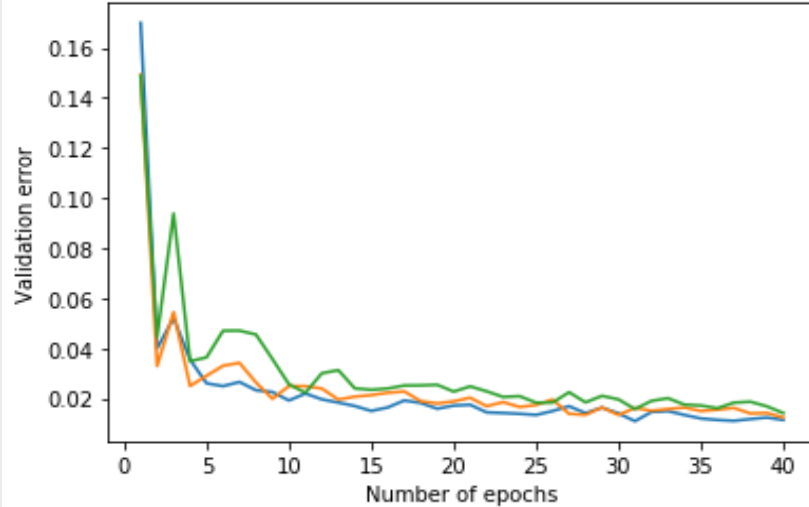
Empirical CDF



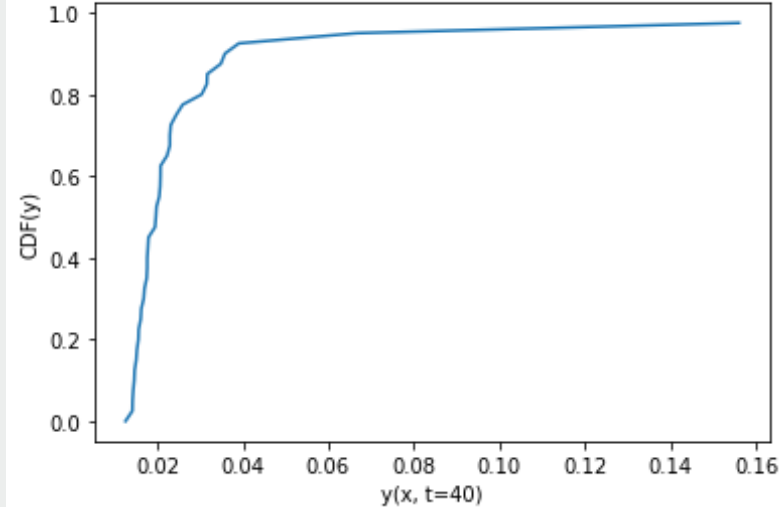
Training model with raw datasets

MLP for the prediction

Subset of learning curves

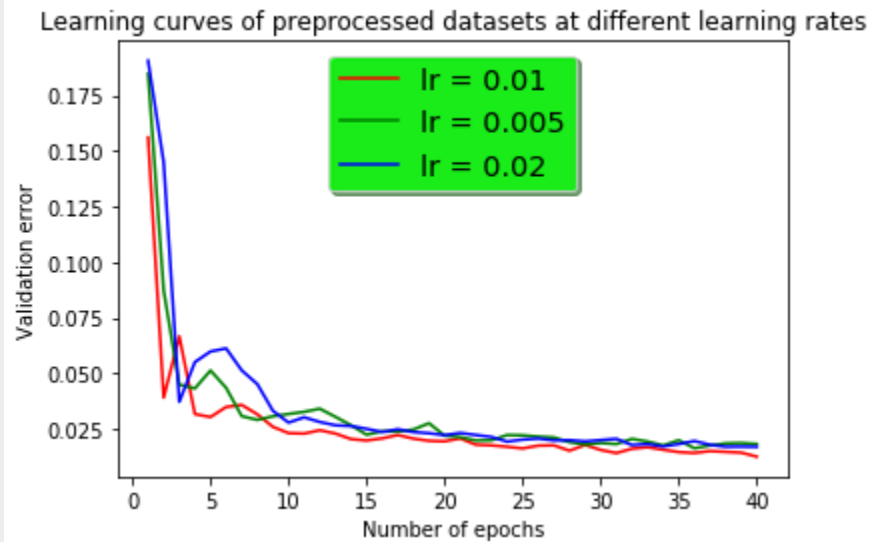
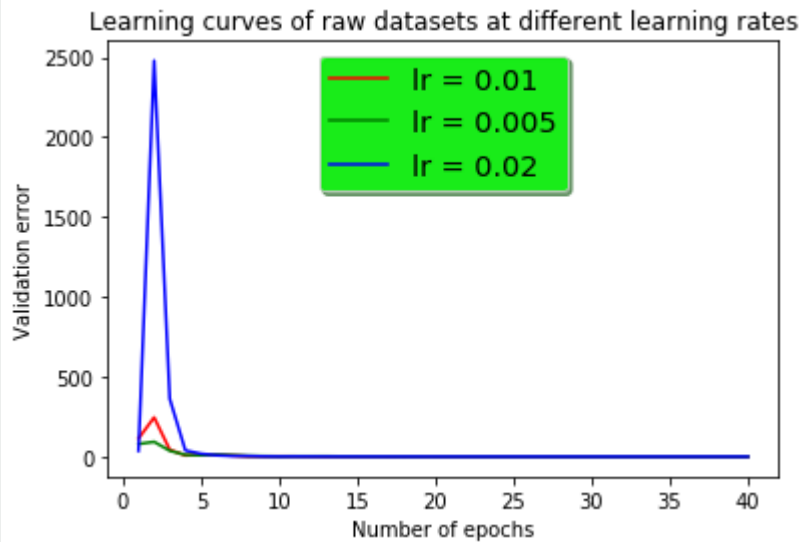


Empirical CDF



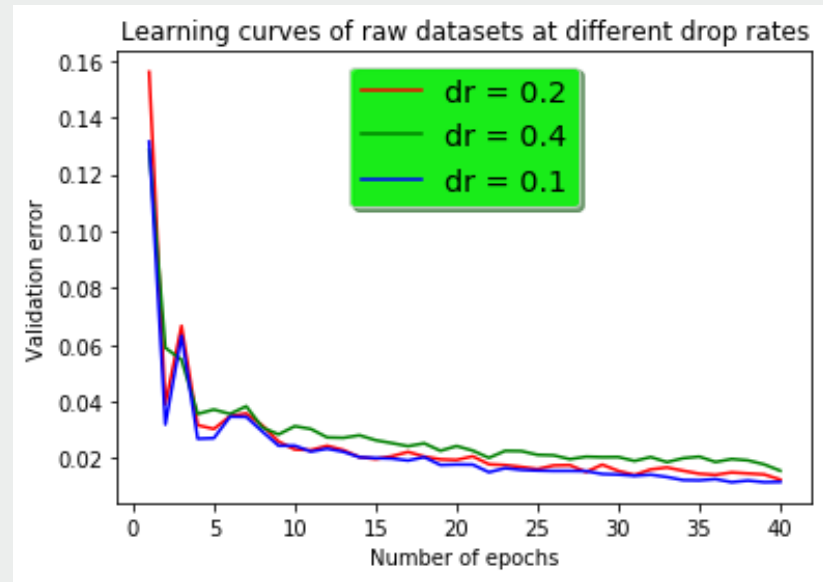
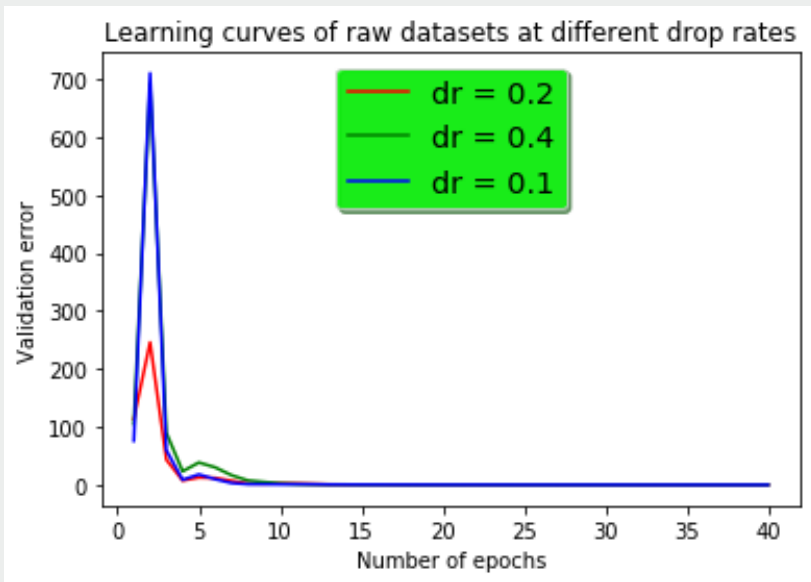
Training model with preprocessed datasets

MLP for the prediction



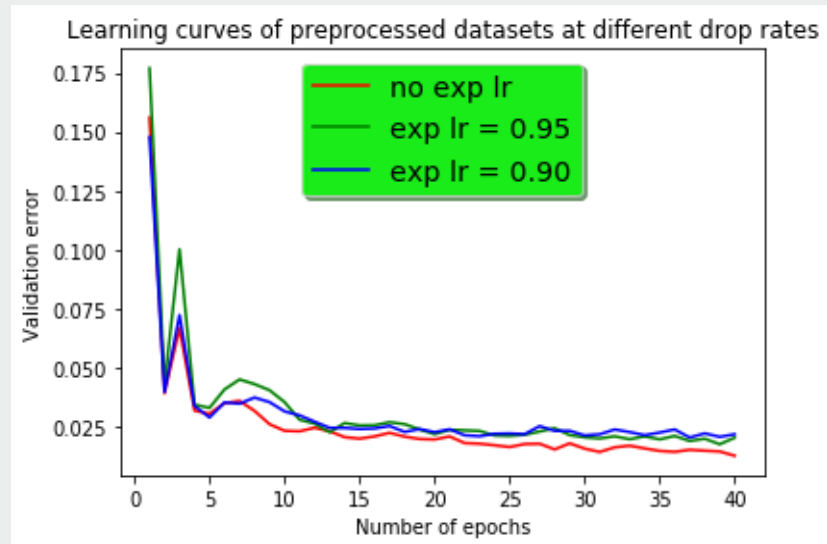
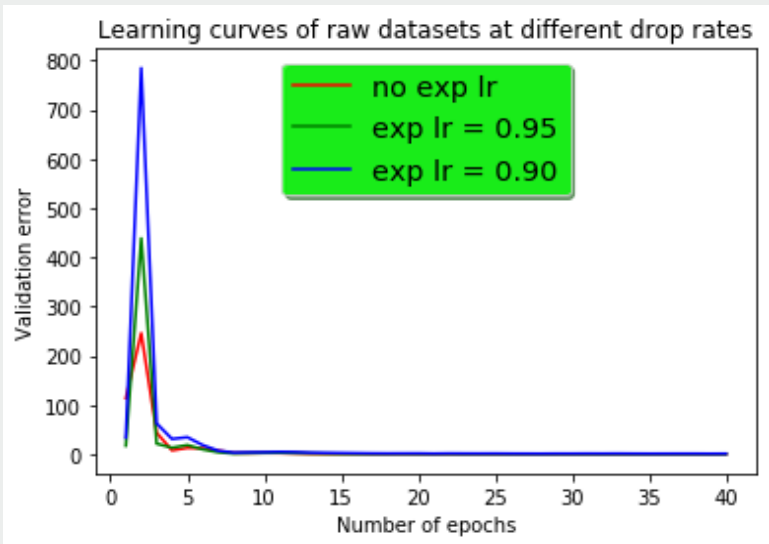
Training data with different learning rates

MLP for the prediction



Training data with different drop rates

MLP for the prediction



Training model with exponential learning rate

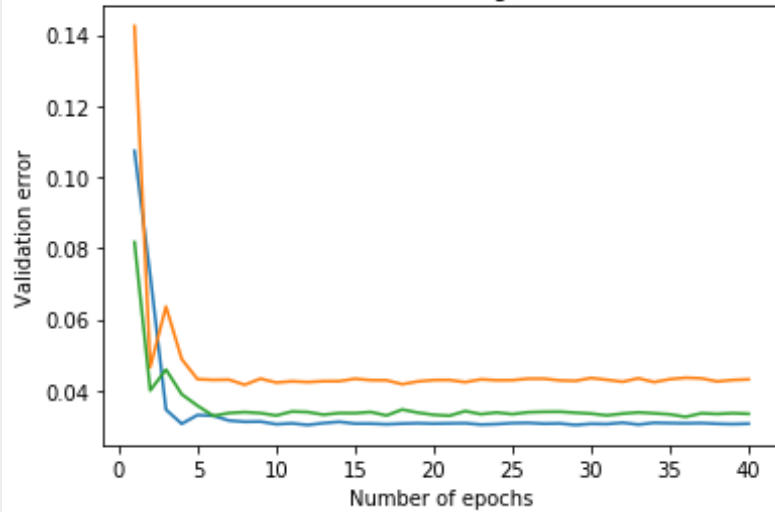
MLP for the prediction

MODEL	SCORE	MSE
Linear	0.12	0.0306
Decision Tree	0.53	0.0164
Random Forest	0.59	0.0116

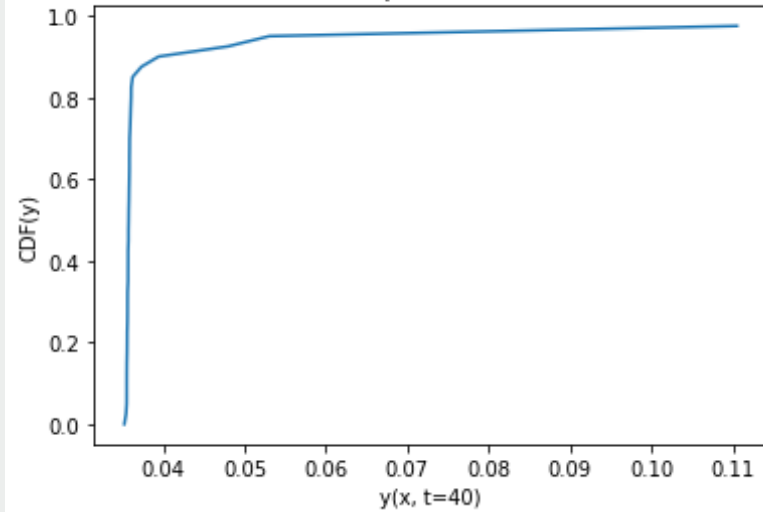
Some baselines

RNN for the prediction

Subset of learning curves

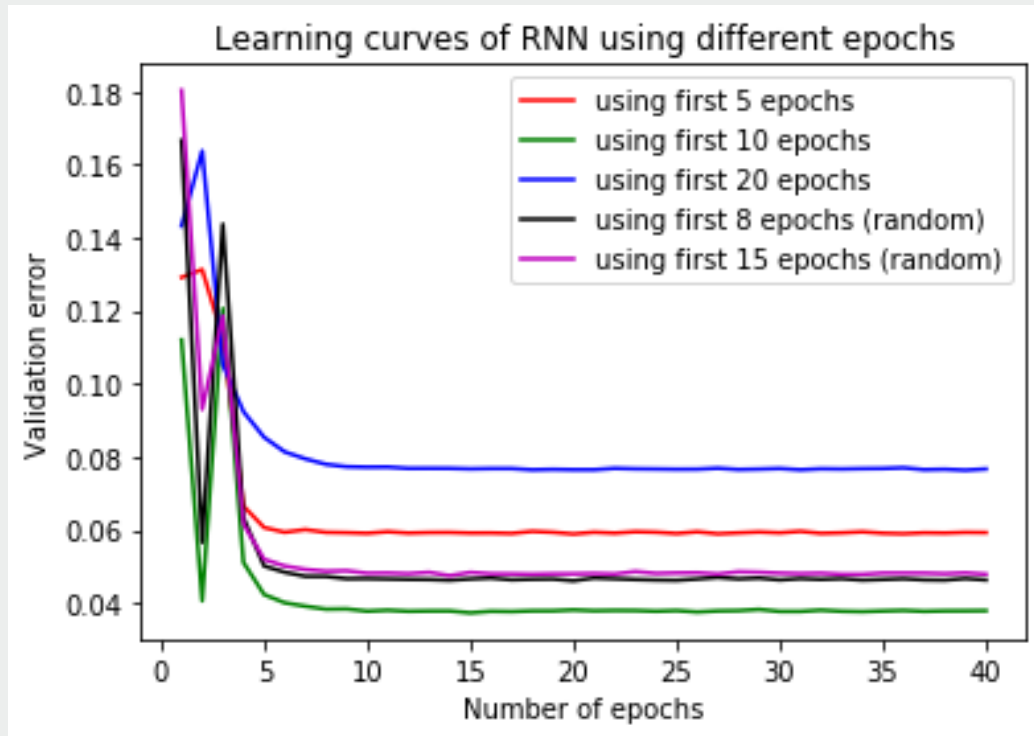


Empirical CDF



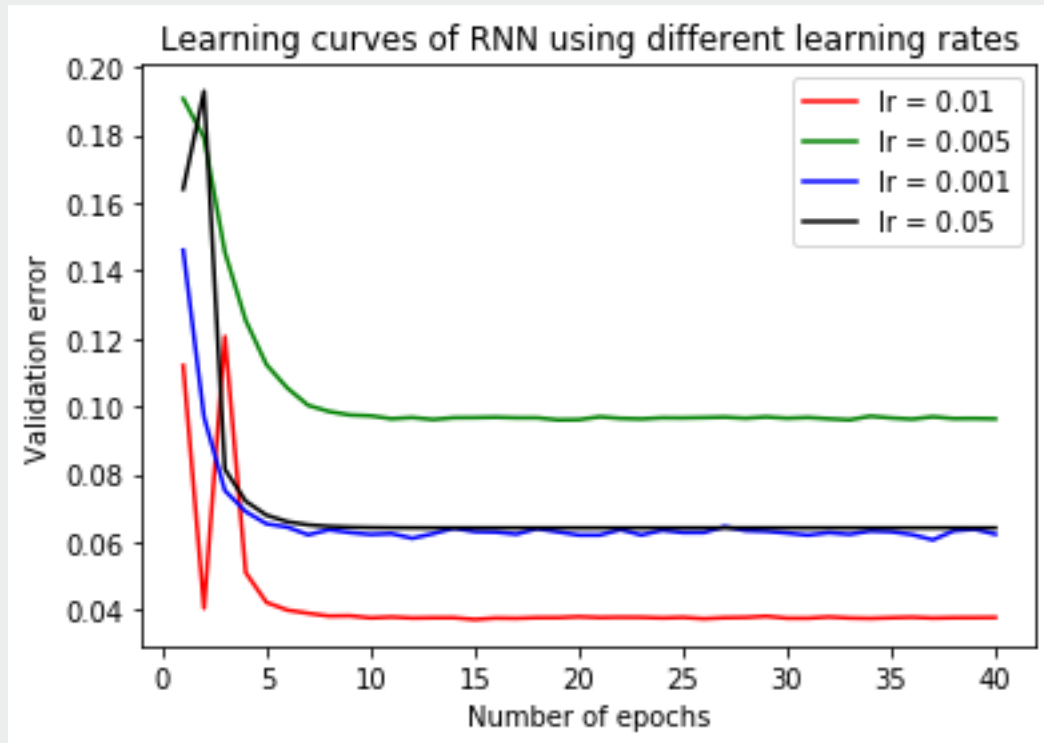
Training model with first 5 epochs

RNN for the prediction



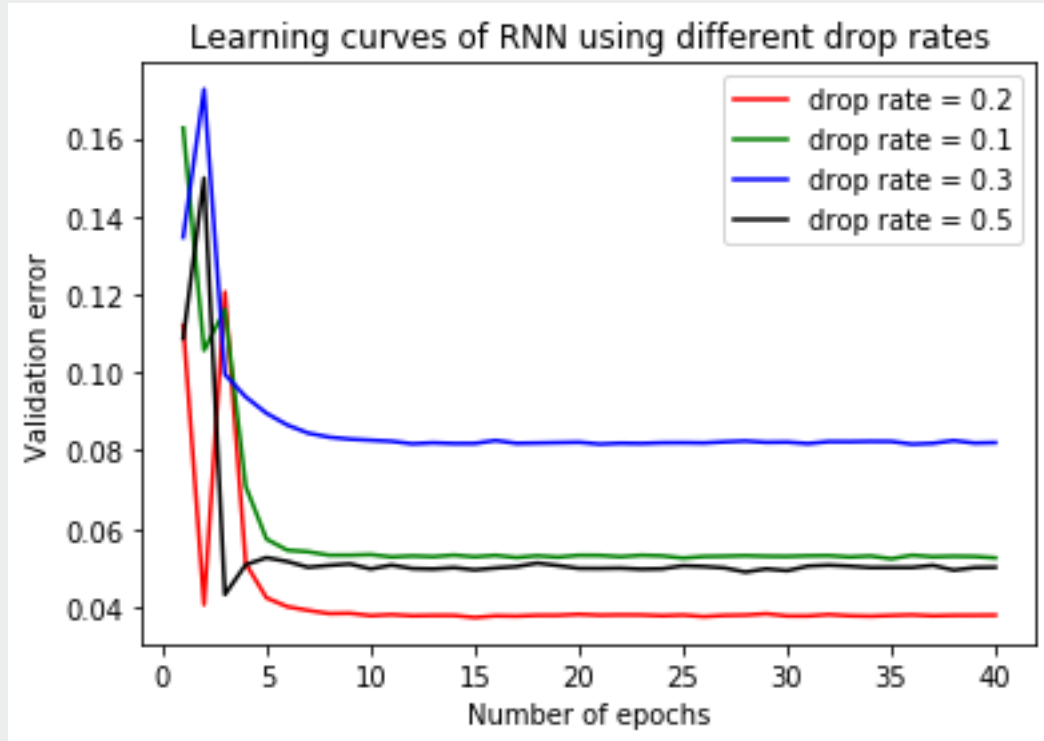
Training model with different number of first epochs

RNN for the prediction



Training model with different learning rates

RNN for the prediction



Training model with different drop rates

RNN for the prediction

MODEL	SCORE	MSE
Linear	0.956	0.00139
Decision Tree	0.922	0.00266
Random Forest	0.971	0.00102

Some baselines

RNN for the prediction

Some baselines

RNN for the prediction

train a simple linear regressor

uses the configuration and the last 4 points to predict the next one

average cross validation MSE: 0.000423

average cross validation score: 0.988433

Some baselines

Foundations of Deep Learning

Final Project

Source code:

github.com/hoshiraku/dlfinal