



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

MASTER'S THESIS PRESENTATION

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MYUNGIN KIM

Department of Statistics  
The University of Chicago

Recurrent Neural Networks and Time Series Prediction on  
USD/KRW Exchange Rate

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Jones 304, 5747 S. Ellis Avenue

### ABSTRACT

This paper explores three different time series prediction models: ARIMA, basic RNN, and encoder/decoder RNN. We present the limitations of ARIMA model for predicting USD/KRW exchange rate and the relative advantages of using RNN or encoder/decoder RNN for time series prediction. We discuss the prediction performances of ARIMA and RNN by comparing prediction intervals and prediction errors (RMSE) of these models. In addition to prediction results, training details of two different RNN models will also be discussed.

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For information about building access for persons with disabilities, please contact Laura Rigazzi at 773.702-0541 or send an email to [lrigazzi@galton.uchicago.edu](mailto:lrigazzi@galton.uchicago.edu). If you wish to subscribe to our email list, please visit the following web site: <https://lists.uchicago.edu/web/arc/statseminars>.