# DORUK KILITCIOGLU

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## EDUCATION

**New York University,** Courant Institute of Mathematical Sciences, NY, US **May 2019**
MSc. Computer Science, **GPA: 4.00**

**Bogazici University,** Turkey **Jan 2017**
B.Sc. Computer Engineering, Minor: Economics, GPA: 3.47 (7th in class)
Government Scholarship, Dean's Honor List, Student TA

**University of Queensland,** Australia **Nov 2014**
Exchange Student, GPA: 3.71

## WORK EXPERIENCE

*Graduate Adjunct*, **NYU,** NY, US **Jan 2019 – May 2019**
- Lecturer for the recitation sections of Algorithmic Problem Solving course, under Prof. Joanna Klukowska
- Holding office hours, selecting problems for the recitations, and responding to student questions

*Machine Learning Engineer Intern*, **Hifi,** NY, US **Jul 2018 – Dec 2018**
- Research and implement *(Numpy, Tensorflow)* state of the art algorithms for music recommendation.
- Implemented session-based k-Nearest Neighbors algorithm for automating playlist generation.
- Performed exploratory data analysis and generated actionable insights from a dataset of over 750 million rows
- Improved playlist build times by 35% by integrating and testing better nearest neighbor algorithms.

*Student Developer*, **NYU IT,** NY, US **Oct 2017 – May 2018**
- Applied Machine Learning methods *(scikit-learn, Tensorflow)* to improve the handling of work orders.
- Started out writing *(C#, .NET)* web API for NYU web services.

*Software Dev. Intern*, **Huawei Technologies,** Turkey **Jun 2015 – Jul 2015**
- Helped develop a Twitter spam detector for telecommunication related tweets, using 1mil+ tweets by 400k+ users.
- Tested to be 90% accurate on a larger database. Heavy use of Apache Lucene library *(Java)* & common NLP features.

## RESEARCH PROJECTS

**cu2rec: GPU Accelerated Matrix Factorization for Recommender Systems** **Sep 2018 – Dec 2018**
- Built *(in CUDA)* a Matrix Factorization library optimized for Recommender Systems using Stochastic Gradient Descent
- Reached error metrics similar to the best sequential versions while being 10x faster on a single GPU

**Books2Rec: Hybrid Book Recommendation System** **Jan 2018 – May 2018**
- Collaborated to build *(in Python)* a hybrid Recommender System, live at books2rec.me
- Used book ratings and features, SVD and Autoencoders to achieve a RMSE (Root Mean Squared Error) of 0.843
- Paper accepted into ICBDA 2019 with Dr. Anasse Bari

**Visualizing the Rental Housing Crisis in US** **Jan 2018 – May 2018**
- Led a team for visualizing *(in R)* the increase in rents with respect to income in major metropolitan areas of the US
- Produced an RShiny app live at dorukkilitcioglu.shinyapps.io/RentBurden/

**Relation Extraction using Deep Learning** **Sep 2017 – Dec 2017**
- Read & implemented *(using Tensorflow)* methods for entity relation extraction from multiple research papers
- Interfaced with a larger NLP pipeline built by a team of 6 people
- Achieved 49% F1-score using CNNs and 51% F1-score using Bi-LSTMs on ACE 2004 dataset

## TECHNICAL SKILLS

**ML Domains:** Recommender Systems, Natural Language Processing, Bioinformatics, Finance

**Statistical Analysis:** Time Series, Hypothesis Testing, Feature Selection, Visualization, Bayesian Stats

**Machine Learning:** Deep Learning, Topic Models, Clustering, Classification, Regularization

**Languages:** Python, Java, R, MATLAB, C++, CUDA, Javascript, C#, Scheme, Prolog, Perl

**Tools:** Jupyter Notebook, RapidMiner, RStudio, IntelliJ, Visual Studio

**Libraries:** Tensorflow, Scikit-learn, Numpy, Pandas, ggplot, RShiny, Hadoop, Mahout, NLTK, Lucene, Spring

**Databases:** SQL, Oracle *(PLSQL)*, MongoDB, HDFS