# ZEYNEP HAKGUDER

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## PROFILE

This is me

## EDUCATION

**University of Nebraska-Lincoln** August 2017 - May 2020 (Expected)
PhD in Computer Science, *Machine Learning Specialization* Cumulative GPA: 3.969

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|---|---|---|---|
| **Related Courses** | *Deep Learning* | *Machine Learning* | *Probability* |
| | Pattern Recognition | Introduction to Machine Learning | Probability Theory |
| | Seminar in Deep Learning | Computational Intelligence | Statistical Methods |
| | | Algorithms for Large Scale Data | Multivariate Statistics |

## EXPERIENCE

**Teaching Assistant** *Fall 2017 —*

Design and Analysis of Algorithms, Introduction to Machine Learning, Data Structures and Algorithms, Introduction to Python Programming

**Research Assistant** *January 2017-May 2018*

SBBI Lab, Department of Computer Science and Engineering

## SKILLS

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|---|---|
| **Programming Languages** | Python, JavaScript |
| **Scripting Languages** | Bash, AWK, sed, LaTeX, SQL |
| **Deep Learning Libraries** | Pytorch, TensorFlow, Keras |
| **Machine Learning & Data Manipulation Libraries** | Scikit-Learn, Pandas, NumPy |
| **Visualization** | Matplotlib, Seaborn |
| **Operating Systems** | Linux |
| **Scientific Computing & Containerization** | OSG, Docker |
| **Software & Tools** | Emacs, Jupyter Notebooks |
| **Database Systems** | MySQL, MongoDB |
| **Web Technologies** | Node, Express, React, Redux, REST |
| **Native** | React Native |

## PROJECTS

**Research Projects**

*Computer Vision:* Develop and implement deep methods for computational jigsaw puzzle solving. (**TDD, Python, OpenCV**)
*Biological molecule target prediction:* Predicted binding interactions between biological molecules with Gaussian Mixture Models using **Scikit-Learn & Pandas**. Decreased model training time about 50× using **distributed computing** (OSG) **Docker**
*Deep similarity search:* Develop and implement methods to find similarity preserving embeddings of data using locality-sensitive hashing. (**TensorFlow & Keras**)

*Deep Generative Models for Optimization Problems*: (Ongoing) Develop and implement methods to solve optimization problems. (**PyTorch, TensorFlow**)

**Side Projects**

*Machine Learning Web & Native Applications*

ToDo List
Games: Pong, Simon, Game of Life, Matching Game (**React, Redux**)
Location-based job search app (**React Native, Redux**)

Naive Bayes Classifier, Decision Tree Classifier (ID3)
Document similarity using Locality Sensitive Hashing

## ACCOMPLISHMENTS, SERVICE & LEADERSHIP

Workshop Co-organizer, IRLB@IEEE BIBM, *San Diego* — *Nov 18-21 2019*
Workshop Co-organizer, Support Vector Machines, UNMC, *Omaha* — *2019*
Oral Presentation @IEEE BIBM, *Kansas City* — *2017*
Subreviewer, IJCAI — *2018 —*
3 peer-reviewed articles in journals and conferences, 1 preprint
Head Teaching Assistant, *Design and Analysis of Algorithms* — *August 2018 —*