

## Xiaomeng Li

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### Experience

#### Software Development Engineer

07/2020-present

**Amazon.com, Inc. Austin, TX**

#### Machine Learning Intern

05/2019-08/2019

**Electronic Arts Inc.(EA), Austin, TX**

Service Evaluation Based Web Application with Natural Language Processing

- Translated EA customer and service agent conversation audio files into text using **AWS S3's** Transcribe function in **Python**. Designed protocols to divide the text into different channels.
- Applied **NLP** model Bert from Google with GPU on AWS EC2 to do sentiment analysis using customer's data as well as IMDB movie review data and achieved 86% accuracy in testing.
- Built a complete website with **Django**, JavaScript and **Vue.js** to allow customer support advisers to log in and view/update the analysis results stored in **MongoDB**. Added Google charts to represent the data distribution in database and posts to allow system news from different users.
- Transplanted the whole website onto **AWS EC2**, used Nginx to connect user from browser to Django and Bert model was applied in backend as a classifier to allow machine learning engineers to upload audio/text files and see the predictions from Bert in real time. Incorporated the AWS Transcribe into the website and used Celery to make Bert run asynchronously.

#### Applied Machine Learning Research Intern

05/2018-08/2018

**Los Alamos National Laboratory (LANL), Los Alamos, NM**

Machine learning solutions to revealing the hidden seismicity of Mars (Mentor: Dr. Carene Larmat)

- Applied Fingerprinting to preprocess the Marsquake waveform data and transferred the Fingerprinting results into both Sequence and Image, two perspectives in Deep Learning.
- Built a Convolutional Recurrent Neural Network (CRNN) with **Keras** and **TensorFlow** incorporating both **CNN** and **LSTM**. Adjusted the parameters and structure in CRNN to improve model's performance in finding the waveform where Marsquake events happen. Used time window to separate time-history waveform in order to get training data. Evaluated the model with 10-fold cross-validation and observed the results using confusion matrices.
- Classified both waveform and Fingerprinting data with CRNN and Random Forest. Achieved 80% accuracy on both training and testing stably without overfitting the model.

#### Research/Teaching Assistant at University of New Mexico

01/2017-04/2018

- Built machine learning models and wrote reports for research project: "Support Vector Machine and Convolutional Neural Network Applications in Dynamic Vision Sensor Data". Teaching Assistant for classes *Engineering Statics (CE 202)* and *Structural Dynamics (CE 521)*.

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### Education

#### University of New Mexico

08/2018-05/2020

*Master of Science, Computer Science*

GPA: 3.80/4.0

*Doctor of Philosophy, Structural Health Monitoring:* Performed one year of study in pursuit of PhD before exiting program and then transferred to Computer Science Department.

06/2017-05/2018

#### Johns Hopkins University

08/2015-05/2017

*Master of Science in Engineering, Structural Engineering*

#### Qingdao Technological University (China)

09/2011-07/2015

*Bachelor of Engineering, Water Supply and Sewerage Engineering*

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### Skills

Languages: Python, Java, C++;

Web Development: Django, PHP, MongoDB, MySQL, HTML/CSS/JavaScript;

Machine Learning: Scikit-learn, Keras, TensorFlow, NLTK;