

Jiahui Ding

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EDUCATION

University of Southern California, U.S.A.

Aug. 2018 - Expected May 2020

M.S. Computer Science

GPA: 4.00/4.00

Relevant Courses: Analysis of Algorithms, Machine Learning, Web Technologies

University of Waterloo, Canada

Sep. 2017 – Apr. 2018

Exchange Program, Computer Science

GPA: 94.2/100.0

Relevant Courses: Intro Machine Learning, Intro Artificial Intelligence, Neural Network, Analysis of Algorithms

Wuhan University, China

Sep. 2014 – Jun. 2018

Bachelor of Engineering in Computer Science

GPA: 3.82/4.00

WORK EXPERIENCE

Software Engineer Intern | Twitter, San Francisco, US

May 2019 – Aug. 2019

- Worked in *Ads Prediction Machine Learning Infrastructure team* to improve the performance of parameter service to predict the probability of a user clicks on an Ads under a given context.
- Successfully improved the QPM of parameter service from 300k to 450k by optimizing the inefficient part of *Java* and *Scala* code. Thus, we can handle more training data and potentially use deeper neural network model to improve our model quality and find better Ads for each user.
- Successfully enabled *Java TensorFlow GPU* for the deep neural network training of parameter service. Drew the conclusion that more CPU is needed to speed up the training by analyzed the detail of code and performance metrics.

Algorithm Engineer Intern | Alibaba Group, Beijing, China

Jun. 2017 – Sep. 2017

- Designed and implemented algorithms on backend of a *Recommender System* for Taobao mobile phone app. Discussed with supervisor to understand the data stream in the backend of this Recommender System.
- Cooperated with teammates to discover relationship between items by using *community detection algorithms*.
- Devised a *modified Label Propagation Algorithm* with ability to control the size of cluster to satisfy the needs of downstream applications. Implemented it by java with *MapReduce* and *Graph Model* and ran it on *Alibaba Cloud*.
- Adjusted a *GBDT* model on *Alibaba Machine Learning platform* to rank the similarity between items. Built data stream to gather and preprocess input dataset and provide the result to downstream applications.
- The *modified Label Propagation Algorithm* and the adjusted *GBDT* model was tested online and influenced the recommendation result of *more than a hundred million users*.

PROJECTS

eBay product search website and iOS app

Mar. 2019 – Apr. 2019

- Developed an eBay product search website and iOS app. User can input the keywords together with some filter options such as category and condition to retrieve product information from eBay.
- For the website, frontend is developed using *Angular* framework with *Bootstrap* to enable useful features such as autocomplete and validation for search form. Backend is developed by *Node.js* and *PHP* to call eBay API. The website supports favorite product list that is saved by browser local storage. Deployed the website on *AWS*.
- Developed the iOS app with exactly the same function by *Swift* using *XCode*.

A genetic method to automatically develop structure for neural network

Dec. 2017 – Apr. 2018

- Proposed a genetic algorithm that can automatically generate the structure of a neural network which is represented by a graph. Wrote the algorithm in C++ and developed a python interface.
- Designed multiple genetic mutation methods that work together during the evolution process.
- Successfully solved the *cart-pole balancing problem* supported by *OpenAI gym* with only 19 hidden neurons. Achieved 3.23% error rate with only 95 hidden neurons on *MNIST* dataset.

TECHNICAL SKILLS

Programming Languages:

Java, C++, Python, C, SQL, Scala, C#, HTML, CSS, JavaScript, Node.js, PHP, Swift

Tools:

Git, AWS, GCP, Aurora, Mesos, Pants, Angular, MATLAB, Latex, XCode