**CONG PENG**

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SKILLS:

**Programming**: Java, Python, C++, PHP, MATLAB, SQL, knowledge of Linux / UNIX

**Language**: English, Chinese (native)

EDUCATION:

University of California, Los Angeles (UCLA) Expected 2017.12

* Electrical Engineering, Signals & Systems (current GPA: 3.5/4)

Beijing University of Posts and Telecommunications (BUPT)2012.08 - 2016.07

* Communication Engineering (GPA : 86/100)

Instituto Superior Tecnico, Lisboa, Portugal 2015.02 - 2015.06

* Electrical and Computer Engineering

EXPERIENCE:

**EL ENGR 219: Large-Scale Data Mining: Models and Algorithms (Python & MATLAB) UCLA** Present

* Regression Analysis: Basic implementation of Regression Models (Linear Regression, Ridge Regression, Logistic Regression, Polynomial Regression, etc.) on network backup and housing dataset, along with basic techniques to handle over-fitting by cross validation and different regularization methods.
* Classification & Clustering Analysis: Implemented text data modeling strategies and different feature extraction strategies (TFxIDF, LSI, PCA and etc.) on ‘20 *Newsgroups’* dataset with a various learning algorithms (K-means, soft margin SVM, Naïve Bayes, logistic regression and etc.). (Both two-class and multiclass Classification)
* Collaborative Filtering: Implemented collaborative filtering with “Alternating Least Squares” to build a recommendation system on the ‘*MovieLens’* dataset with a volume of 100,000 movie rating data. (Matrix Factorization Toolbox in MATLAB & NMF in Python)

**EL ENGR 210A: Adaptation & Learning (MATLAB)** *UCLA* 2017.01-2017.03

* Designed a generalized CNN structure, implemented feed forward and back propagation algorithms for entire CNN structure, also dealt with problems concerning padding, partitioning, pooling, and permutation.
* Proposed a strategy on memory saving and computation efficiency during the training phase.
* Trained CNN with MNIST dataset and ImageNet database with 60000 28\*28 digit images in ten classes and 1000 256\*256 animal images in four classes respectively. The test results on accuracy end at 94.11% and 45.24% for each test cases.

**Undergraduate Dissertation: Advanced Algorithm Analysis on Wi-Fi Locating Based on Automatic Path Tracking (Java, Python & SQL)**  *Tsinghua University*  2015.11 - 2016.05

* Implemented K-means clustering algorithm to learn features of actual human trajectories.
* Summarized 3 important patterns along the human trajectories, set a criteria for further evaluation in localization and revised the localization trajectory with given pattern rules.
* Improved localization accuracy according to a well-defined localization algorithm by overall 10%.

**COM SCI 143: Relational Database Management Design (C++, SQL, PHP & HTML)** *UCLA* 2016.9 - 2016.12

* Design several required SQL queries on given Movie Database with desire speed and efficiency.
* Built an open-ended Movie Database system allowing the user to search for the information of Movies and Actors through a Web interface. (SQL, Web application)
* Bruinbase Design, implemented B+ tree index on Bruinbase which can efficiently retrieve the information from the database. (System Design, RDBM)

**Learning Bayesian Networks (Java)** *Instituto Superior Tecnico* 2015.02 - 2015.06

* Implemented Greedy Hill Climbing algorithm and random restarts in Java to learn the experimental data from the training set.
* Discovered the best structures supported by 2 different scoring algorithms, log-likelihood and minimum description length.
* Computed the parameters of the structure and predicted exact value successfully.

**Weather parameters monitoring and sharing based on WeChat Common Platform (PHP)** *BUPT* 2014.03 - 2014.06

* Obtained data from the database collected by the sensors.
* Built up one WeChat platform which can interact with the subscribers by informing weather parameters collected by sensors, and displayed requested information on the screen in user-friendly way.