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.