

CONG PENG740 Weyburn Terrace, APT #64, LA, CA, 90024 | (424)325-8496 | pengcong@ucla.edu**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)** PresentAdvisor: *Roychowdhury, Vwani**UCLA*

- 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 regularization.
- 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, Linear SVM, soft margin SVM, Naïve Bayes, logistic regression and etc.). (Both two-class and multiclass Classification)
- Collaborative Filtering: Implemented collaborative filtering called "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 and NMF in Python)

Undergraduate Dissertation: Advanced Algorithm Analysis on Wi-Fi Locating Based on Automatic Path Tracking (Java, Python & SQL)Advisor: *Ke Xu**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)Advisor: *Junghoo Cho**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.

Navigation of Mobile Robot (MATLAB) *Instituto Superior Tecnico* 2015.04 - 2015.06

- Analyzed the path condition carefully, and tested the sensitivity of ultrasound sensors.
- Designed one possible controlling algorithm based on 2 ultrasound sensors to navigate the robot to move around the offices without colliding with potential obstacles.

Weather parameters monitoring and sharing based on WeChat Common Platform (PHP) 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.