PU-CHIN CHEN

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Education

University of California, Los Angeles (UCLA) **Los Angeles, CA**
M.S. in Computer Science Sept. 2016-Present

- Research Area: Natural Language Processing; Advisor: Kai-Wei Chang
- Coursework: Database Systems, Data Mining, Data Science Principles, Natural Language Processing, Computer Security; Anticipated Courses: Software Engineering, Artificial Intelligence
- GPA: 3.93/4.0; GRE: Q170/170 (**Top 3%**)

National Taiwan University (NTU) **Taipei, Taiwan**
B.S. in Computer Science Sept. 2011-June 2015

- Coursework: Data Structures and Algorithms, Operating System, Computer Network, Machine Learning, Web Retrieval and Mining, Linear Algebra, Probability, Advanced Statistics
- Taiwan National College Entrance Exam (AST): Math: 100/100 (**Top 1%**); Physics: 99/100 (**Top 0.1%**)

Work Experience

Machine Learning Intern **Taipei, Taiwan**
KKBOX Summer 2017

- Reduced **60%** of code size by refactoring music genre prediction system from Theano to Tensorflow/Keras
- Extracted audio to instruments, styles or acoustic properties by convolutional neural network; built document embedding for lyrics adapted from word2vec model; ensembled features using wide-and-deep algorithm
- Constructed deep learning pipeline and deployed on Docker, including crawler, word parser and ETL tools

Data Science Intern **Taipei, Taiwan**
Far EasTone Telecommunications Co. Winter 2017

- Optimized MySQL database with **300X** improvement from exponential to linear time (e.g. 1 week to 30 mins)
- Produced features from **billions** of daily machine-generated data; transformed hundreds of time series and spatial attributes to business interpretable variables; expanded scalability of data pipeline
- Analyzed lifestyle from **7 million** customers through time series clustering using discrete wavelet transform

Selected Projects

Debate about Models on Personality, *Data Science Principles* **UCLA**

- Measured discriminatory power on personality with traditional taxonomic models and new dimensional models
- Explored the cluster structure of personalities using k-means and estimated the number of clusters via the gap statistic; studied dimensional structure using PCA and identified the number of dimensions through plot analysis

Manipulating Drones by Gestures Recognition, *Bachelor Thesis Project* **Stanford**

- Achieved 90%+ accuracy to recognize 8 gestures in real-time using K-nearest neighbor algorithm
- Created a body-controlled drone system within 36 hours using Java to control Kinect and AR.Drone
- Represented NTU in 2015 Stanford Treehacks Hackathon, attracting 2 companies for potential cooperation

Level Learning: Classify Tutorials by Difficulty, *Web Retrieval and Mining* **NTU**

- Generated text features using TF-IDF concept from online learning tutorials crawled by Python
- Ranked 10 levels of documents difficulty for each query using semi-supervised learning

Leadership Experience

Vice President **Taipei, Taiwan**
NTU Hackathon Organization Mar. 2015-Aug. 2015

- Led an organization with 9 departments of 68 members and 80 volunteers to host a 3-day hackathon for more than 800 nationwide students and industry professionals; achieved the biggest hackathon event in Taiwan
- Integrated cross-department communication and directed a technical team to build official websites, web game and bicycle tail light for marketing purpose; technologies included NodeJS, ReactJS, AnuglarJS, Dart and Arduino

Skills & Interests

Programming Languages: Python, Java, C/C++, MySQL, JavaScript, R
Tools: Tensorflow, Keras, Scikit-Learn, Docker, NodeJS, LaTeX
Languages: Native in Mandarin; Fluent in English
Interests: Street Dance, Coffee, History