PU-CHIN CHEN

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Education

University of California, Los Angeles (UCLA) **Los Angeles, CA**
M.S. in Computer Science 2017 - Feb. 2019 (expected)

- **GPA: 3.95/4.0**; GRE: Q170/170 (**Top 3%**)
- Research Area: Deep Learning in Natural Language Processing; Advisor: Kai-Wei Chang
- Coursework: Statistical Modeling and Vision, Learning from Text, Natural Language Processing, Data Mining, Data Science Principles, Database Systems, Programming Languages, Computer Security

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

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

Work Experience

Machine Learning Intern **Taipei, Taiwan**
KKBOX | *Asia's Leading Music Streaming Service* May 2017 - Sep. 2017

- Constructed deep learning pipeline with Python, MySQL and Shell Script; deployed to production using Docker
- Reduced **60%** of code size by refactoring music genre classification system from Theano to **Tensorflow/Keras**
- Extracted high-level properties from audio by convolutional neural network; built document embedding for lyrics adapted from word2vec model; ensembled features using wide-and-deep algorithm and achieved **90%** f1 score
- Developed software in an agile research team using Scrum methodology

Data Science Intern **Taipei, Taiwan**
Far EasTone Telecommunications Co. Jan. 2017 - Apr. 2017

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

Research Experience

Attention Based Neural Grammar Correction | *UCLA NLP Lab* Spring 2018

- Corrected grammatical error sentences by sequence-to-sequence neural machine translation with attention, adding error tags as additional information; built with PyTorch
- Substitued traditional word embedding (word2vec and Glove) using deep contextualized word representations with language model (ELMo), capturing both syntactic forms and semantic meanings

Character Identification in Multiparty Dialogue with Neural Coreference Resolution | *UCLA NLP Lab* Winter 2017

- Integrated end-to-end coreference resolution system with entity linking model using Tensorflow
- Designed mention embeddings with Bi-LSTM and attention mechanism for mention head detection; optimized coreference scores by maximizing antecedent liklihood formed with mention pairs
- Implemented agglomerative convolutional neural network to predict character entities of each mention cluster predicted from the coreference system; identified mentions as certain characters in TV show dialogues

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 850 nationwide students and industry professionals; achieved the biggest hackathon event in Taiwan
- Attained $100,000 sponsorship through building collaborative partnership with 10 multinational enterprises

Skills & Interests

Programming Languages: Java, Python, C/C++, MySQL, JavaScript, R
Tools: Tensorflow, Keras, PyTorch, scikit-learn, Git, Linux, Docker
Languages: Native in Mandarin; Fluent in English
Interests: Vim, Street Dance, Music