PU-CHIN CHEN

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Education

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

- **GPA: 3.8/4.0**; 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%**)
- Leadership: HackNTU Hackathon Organization - Vice President

Work Experience

PayPal **San Jose, CA**
Software Engineering Intern June 2018 - Present

- Built autonomous cloud patching dashboard in PaaS production, managing **2500** applications across all PayPal sites
- Developed front-end in **JavaScript** and **ReactJS**; communicated with Tomcat Server in Java through RESTful APIs
- Implemented auto-encoder based clustering with Deep Neural Network by **Tensorflow**, integrating models into **NodeJS** back-end; identified and visualized hidden structrues of failed virtual machines with d3.js

KKBOX **Taipei, Taiwan**
Machine Learning Intern 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** and 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

FarEasTone **Taipei, Taiwan**
Data Science Intern 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; expanded scalability of data pipeline
- Transformed hundreds of time series and spatial attributes to business interpretable variables using Python

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
- Applied agglomerative convolutional neural network to predict character entities in TV show dialogues

Skills & Interests

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