Fei-Fan (Phil) Hung

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EDUCATION

University of Southern California (USC), Los Angeles, CA **05/2018**
Master of Science in Computer Science, GPA: 3.53/4.0
Course Highlights: Web Technologies, Database Systems, Artificial Intelligence, Deep Learning

National Chiao-Tung University (NCTU), Hsinchu, Taiwan 06/2015
Master of Science in Electronics Engineering, GPA: 3.92/4.3 or 3.84/4.0
Research Thesis: Mandarin Chinese Phoneme Recognition Based on Deep Belief Network
Course Highlights: Machine Learning (top 5% in class), Digital Image Processing, Clustering Methods

National Chiao-Tung University (NCTU), Hsinchu, Taiwan 06/2012
Bachelor of Science in Electronics Engineering, GPA: 3.73/4.3 or 3.69/4.0

TECHNICAL SKILLS

Programming Language: Java, Python, C++, C, MATLAB, JavaScript, PHP, Swift, Unix
Web Technologies: HTML/CSS, React, Node.js, AngularJS, jQuery, Bootstrap
Tools or Frameworks: PyTorch, Tensorflow, MongoDB, Redis, RabbitMQ, SQL, AWS Elastic Beanstalk

WORK EXPERIENCE

HTC Corporation, Taipei, Taiwan 06/2017-08/2017
Research Engineer Intern, Deep Learning Apps Team (Deep Learning, Python, PyTorch, NumPy)

- Improved accuracy of eye gaze predictive model with generative methods over PyTorch (Python)
- Solved the limited training dataset problem through generating massive real images using different kinds of Generative Adversarial Networks (GANs) (DCGAN, SimGAN, CycleGAN) based on synthetic images
- Combined essential features with training images as input to refine generated images from GANs
- Visualized data with T-SNE to choose the most suitable generated data matching the real distribution (Scikit-learn)

PROJECT EXPERIENCE

Personalized latest News Recommendation System (React, Node.js, Redis, RabbitMQ, MongoDB) 08/2017-09/2017

- Designed a webpage using React and Node.js for users to login and view the latest news based on their preference
- Implemented a news fetcher to monitor and scrape latest news, dedupe the similarity, and store them in MongoDB
- Built a news topic classifier based on news title and description with Convolution Neural Networks (CNNs) over Tensorflow, and utilized this model for classifying news from the news fetcher
- Created a click event log processor to record users' preference and provide news' recommendation for users

Facebook Graph Responsive Search Website and iOS Mobile App, USC (PHP, AngularJS, Swift) 03/2017-05/2017

- Built a responsive website with search, pagination using Bootstrap and AngularJS on AWS Elastic Beanstalk
- Designed RESTful API to request JSON data from Facebook API and Google Geocoding API using PHP
- Developed an iOS app with slide menu, collapsing table view, third-party modules and Facebook SDK
- Utilized Core Location framework for users to search nearby places based on their current location

Tile-matching Game Agent: The Fruit Rage Game Playing, USC (Java) 09/2017-10/2017

- Designed an intelligent game agent in Java using minimax algorithm with alpha-beta pruning and decision strategy
- Determined the best moves in a 26x26 board under a time limitation and outperformed 94% of 559 agents in class

Interactive Face Generation System with Attributes, USC (Deep Learning, Python, Tensorflow) 09/2017-11/2017

- Built a face generator based on given attributes using Generative Adversarial Networks with CelebA dataset
- Utilized specialized Conditional GANs with mismatch loss to penalize real face images with wrong attributes
- Successfully changed face images with attributes and able to interactively refine image with different attributes

Mandarin Chinese Phoneme Recognition Based on Deep Belief Network, NCTU (Deep Learning) 09/2013-02/2015

- Built a recognition system for Chinese syllable and tone using MATLAB based on Deep Belief Network (DBN)
- Preprocessed raw data and extracted Mel Frequency Cepstral Coefficients and filter bank energies as the input data
- Utilized Restricted Boltzmann Machines to perform greedy layer-wise training and fine-tune the DBN model by conducting Wake-sleep algorithm, and reached a nearly 92% accuracy on testing data