HENGJIA ZHANG

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EDUCATION

University of Michigan *Sep 2018 - Expected: Apr 2020*
Master of Science in Computer Science and Engineering Overall GPA: **3.93/4.0**

University of Michigan & Shanghai Jiao Tong University *Sep 2014 - Aug 2018*
(Dual Degree Program)
BSE in Computer Science and Engineering at UM Overall GPA: **3.71/4.0** Major GPA: **3.91/4.0**
BSE in Electrical and Computer Engineering at SJTU

EXPERIENCE

Deep Learning Internship May 2019 - Aug 2019
Deep Learning Toolbox Team, The MathWorks, Inc. *Natick, MA*

- Transformed various pre-trained models from open source deep learning frameworks to MATLAB
- Refactored the design for Keras Model Transformer in MATLAB to be more organized, maintainable and scalable
- Implemented the nested Sequential Keras Model Transformation in MATLAB to achieve complete Keras Support
- Implemented the transformation of Keras Models where CNN can be applied on temporal dimension for a video input.
- Implemented the transformation of Keras Models which have multiple inputs and multiple outputs.
- Wrote RFA files, created unit tests and regression tests for all features above

PROJECTS

Real to Anime/Anime to Real Transformation Using CycleGAN Jan 2019 - Apr 2019
Deep Learning Project, University of Michigan, advised by Prof. Honglak Lee *Ann Arbor, MI*

- Converted images between real person and anime character based on CycleGAN by using PyTorch
- The FID score for Anime Character generator in the improved CycleGAN improves from 70.9 to 59.2
- Improved the discriminator by using dilated convolution layer to learn better global features of images
- Added skip connections on both generator and discriminator to preserve the images details

Data-driven Programming System on Java Code Prediction Jan 2017 - Apr 2018
Research Assistant, Umich Database Research Group, advised by Prof. Michael Cafarella *Ann Arbor, MI*

- Applied machine learning and deep learning methods in PyTorch to implement a system that predicts next line of Java code
- Applied PyTorch to implement a LSTM which improves the system by increasing the accuracy from 30% to 70%
- Crawled about 10 GB raw Java code from GitHub and built large Java code feature dataset
- Leveraged model to develop auto-complete package in ATOM to showcase effectiveness

Smart Fiction Search Engine Sep 2018 - Dec 2018
Information Retrieval Project, University of Michigan, advised by Prof. Qiaozhu Mei *Ann Arbor, MI*

- Developed a Smart Fiction Search Engine which searches books based on plot and context
- Beat Google Books Search Engine on fiction searching based on book contents (Top 10 accuracy: 72.5% vs 48.3%)
- Implemented Okapi BM25 and used it as our ranking function for fictions retrieved
- Crawled fiction descriptions and reviews to form a database for documents

RELEVANT COURSES

Deep Learning	Machine Learning	Information Retrieval
Natural Language Processing	Reinforcement Learning	Advanced Data Mining
Computer Vision	Methods and Tools for Big Data	Database Management System
Data Structure & Algorithm	Computer Organization	

SKILLS

C/C++, Python, R, MATLAB, SQL, LaTeX