

HENGJIA ZHANG

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EDUCATION

University of Michigan

Master of Science in Computer Science and Engineering

Sep 2018 - Expected: Apr 2020

University of Michigan & Shanghai Jiao Tong University

Overall GPA: **3.93/4.0**

(Dual Degree Program)

Sep 2014 - Aug 2018

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 to the temporal dimension for 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, L^AT_EX