Nhat Pham

Education

University of Washington, Data Science and Statistics Major, 2018 - 2019.
Relevant Courses: CSE 143 Computer Programming II: 4.0, INFO 201 Technical Foundation: 4.0; CSE 416 Introduction to Machine Learning: 4.0; CSE 154: Web Programming: 3.9
Average GPA: 3.96 (Cumulative) *University of Maryland, 2020-2022.*

Awards and Competitions

AIVIVN Sentiment Analysis Competition **Spring 2019**
- Design a text classification system for positive v.s negative product reviews (in Vietnamese)
- Models: word2vec + weighted average of (hierarchical) self-attention neural network, residual network.
- Final Result: 1st Place in Public Leaderboard (F1: 0.90087) and Private Leaderboard (F1: 0.90012)
- GitHub Repository: `https://github.com/petrpan26/Aivivn_1`

Emotion Recognition Competition 2019 **Fall 2019**
- Design a system to classify the emotion of the speaker from raw audio data
- Models: MFCC for preprocessing, deep neural network. Developed and trained using the neural network toolbox (see below)
- Result: 8th place in the first round, invited to present in the second round.
- Website: `https://erc2019.com/`

Main Projects

Neural Network Toolbox **Summer 2019**
- Implement common deep learning procedures and papers using PyTorch for quick prototyping and model developing.
- GitHub Repository: `https://github.com/nhatsmrt/nn-toolbox`
- Documentation: `https://nhatsmrt.github.io/nn-toolbox/`

Arbitrary Style Transfer **Summer 2019**
- Given an arbitrary content photo and a piece of artwork, transfer the style of the artwork to the photo.
- Based on Huang and Belongie's paper "Arbitrary Style Transfer in Real-time with Adaptive Instance Normalization"
- Implemented using PyTorch and my toolbox (see above).
- GitHub Repository: `https://github.com/nhatsmrt/torch-styletransfer`

Automatic Colorization with Deep Learning: **Winter 2019**
- Colorize grayscale images with deep neural network.
- Implement lighter-weight versions of Baldassarre et al.'s and Iizuka et al.'s works.
- GitHub Repository: `https://github.com/nhatsmrt/Colorization`

Denoising Dirty Documents **Summer 2018**
- Used a convolutional autoencoder to restore documents affected with synthetic noises window-by-window.
- Implemented a convolutional neural network with residual connections on Tensorflow.
- GitHub Repository: `https://github.com/nhatsmrt/DenoisingDirtyDocuments`

Experience

Project in Mathematics and Application, Mentor **2017 - 2019**
- Develop the curriculum, lecture on optimization techniques for neural networks, and supervise neural network projects for a selected group of 20-30 talented high school students from all over Vietnam.

Skills

Proficient With
1. *Java (3 years)*
2. *Python(3 years)*:
   - Data Processing and Visualization with numpy, pandas, matplotlib
   - Machine Learning with Scikit-learn, OpenCV, Networkx
   - Deep Learning with Tensorflow, Keras, PyTorch
3. *SQL*
4. Data Structures and Algorithms

Familiar With: Client-Side Web Programming: HTML, CSS, Javascript, some experience with React; Spark

(857) 300 8127 • *nphamcs@gmail.com* • *nhatsmrt.github.io/* • *nhatsmrt*