Nhat Pham

Education

University of Washington, Data Science and Statistics, 2018 - 2019.
Relevant Courses: CSE 143 Computer Programming II, INFO 201 Technical Foundation, CSE 154: Web Programming, CSE 416 Introduction to Machine Learning, CSE 414 Introduction to Database Systems
Average GPA: 3.97 (Cumulative)
University of Maryland, Computer Science, 2020-2022.
Relevant Courses: CMSC 132 Object Oriented II, CMSC 250 Discrete Structures (exempted), CMSC 216 Intro to Computer Systems (In Progress), CMSC 351 Algorithms (In Progress)

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, convolutional neural network. Developed using the neural network toolbox (see below)
- Result: 8th place in the first round, invited to present in the second round.
- GitHub Repository: https://github.com/nhatsmrt/erc; Contest 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

Coding Platform   **Winter 2020**
- A platform to practice solving algorithmic questions and host contests.
- Technology stack: Judge0 for evaluation. Django REST Framework (Backend); React (Frontend). Deployed on Heroku
- Website: http://codingplatform-cp.herokuapp.com/

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)*: Object Oriented Programming, Design Patterns
2. *Python(3 years)*:
   - Data Science, Machine Learning, Deep Learning: numpy, pandas, matplotlib, scikit-learn, pytorch, keras
3. *Relational DMBS and SQL*
4. Data Structures and Algorithms

Familiar With:
1. *Full Stack Web Development*: Server-side with Django; Client-side with HTML, CSS, JavaScript, ReactJS
2. *Database Technologies*: MapReduce paradigm, Spark, AsteriskDB and SQL++
3. *Others*: R (dplyr, tidyr, ggplot2, shiny), git, C, Unix, emacs