Nhat Pham

Education

High School *Phillips Academy, 2015 - 2018*
Undergraduate *University of Washington, 2018 - 2021 (Expected)*
Relevant Courses:
- Phillips Academy: CS 630 (Winter 2016: Machine Learning, Spring 2017: Data Structures and Algorithms)
- University of Washington: CSE 143 Computer Programming II (Fall 2018): 4.0, INFO 201 (Technical Foundation of Informatics): 4.0
Average GPA: 4.0 (Fall 2018), 3.8 (Winter 2019)

Main Projects

AIVIVN Sentiment Analysis Competition   Spring 2019
- A text classification for positive v.s negative product reviews (in Vietnamese)
- Models: word2vec + weighted average of (hierarchical) self-attention neural network, residual network.
- Other approaches: Augmenting data: shuffling sentences, replacing words with nearest neighbor in the embedding space (cosine similarity, annoy library); stacking models; language models (ElMO).
- Final Result: 1st Place in Public Leaderboard (F1: 0.90087) and Private Leaderboard (F1: 0.90012)
- GitHub Repository: `https://github.com/nhatsmrt/AIVIVN_1`

Detecting Insults from Social Commentary   Summer 2018
- Implement a GRU-recurrent neural network on Keras to classify whether a comment is insulting.
- Final result: Test Accuracy: 0.836. ROC-AUC: 0.879.
- GitHub Repository: `https://github.com/nhatsmrt/DetectingInsults`

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`

ImageGeneration   Fall 2018
- Implement a (conditional) Deep Convolutional Generative Adversarial Network on PyTorch.
- Implement different tricks to stabilize training: label smoothing, label switching, instance noise
- Generate MNIST-like digits.
- GitHub Repository: `https://github.com/nhatsmrt/ImageGeneration`

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`

Experience

Project in Mathematics and Application, Mentor   2017 - 2019
- Lecture on optimization techniques for neural networks, and supervise neural network projects.

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

Familiar With:

1. *Web Programming Fundamentals*: HTML, CSS, Javascript
2. *R*
3. *MySQL*
4. *git*