

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; CSE 154: Web Programming: 3.9

Average GPA: 3.97 (Spring 2019), 3.96 (Cumulative)

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 (EIMO).
- 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 lizuka 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*