

# Huy Thanh Vu

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## EDUCATION

### Stony Brook University

Doctor of Philosophy Candidate (GPA: 3.96/4)

Stony Brook, NY, U.S.

2018 - Expected 2023

### Ho Chi Minh City University of Science

Bachelor of Mathematics and Computer Science (GPA: 9.2/10 - ranked university's 1st in graduation batch)

Ho Chi Minh City, Vietnam

2012 - 2017

## KEY SKILLS

- **Languages and Tools:** Python (fluent), C++ (moderate), R (moderate), Matlab (moderate), Java (familiar), Pytorch (fluent), Tensorflow (fluent), SQL (fluent), Hadoop (familiar), Spark (familiar)
- **Research Interests:** Natural Language Processing, Data Science, Deep Learning, Machine Learning
- **Courses:** Data Structure and Algorithm, Artificial Intelligence, Statistics, Discrete Mathematics, Linear Algebra

## EXPERIENCE

### Stony Brook University

Graduate Researcher

New York, U.S.

August 2020 - Present

- Working with musician/psychologist and music professor from Cambridge University, Stony Brook University, applying machine learning into understanding human psychology from their music preferences.
- Using deep learning models (WaveNet, Transformers) to analyze music's wave forms and lyrics to explore their correlations with human personalities and other psychological traits.

### Amazon Alexa AI

Applied Scientist Intern

Washington, U.S.

June 2020 - August 2020

- Working on distilling strong, powerful, but heavy transformers-based language model into more compact, fast-running model while still maintaining reasonable performances.
- Proposed a novel approach to take advantage of large models' performance (RoBERTa, XLM) to be used in a real time on devices with small computing capability.

### Brookhaven National Lab

Research Assistant

New York, U.S.

September 2019 - May 2020

- Working with material scientists, implementing text mining algorithms for BNL's material science literature database.
- Built a search engine using BERT-based contextualized embeddings specifically for material science literature research, received highly rated feedback from material scientists.

### University of Pennsylvania

Research Assistant Intern

Pennsylvania, U.S.

June 2019 - August 2019

- Working with psychologists, exploring novel ideas of applying contextualized word embeddings in psychology research.
- Proved validity of the proposed hypotheses, with correlation up to 0.39 (significant in psychology field).

### Stony Brook University

Graduate Researcher

New York, U.S.

April 2019 - Present

- Mining social media text to explore general public's major views about the world and society. Then building a generative model (GPT-2-based) to describe those major views.
- Explored many valid major views (comparing to gold standards by psychologists) and propose new unexplored views potential for further psychology research.

### Ho Chi Minh City University of Science

Research Assistant

Ho Chi Minh City, Vietnam

August 2016 - December 2017

- Proposing novel method segmenting brain images using combined Gaussian Mixture Model and Deep Learning approach.
- A jump of 8.6(/100) points to beat state-of-the-art methods and therefore accepted to WACV 2017.

## PUBLICATIONS

- Huy Vu, S. Abdurahman, S. Bhatia, L. Ungar, "Predicting Responses to Psychological Questionnaires from Participants' Social Media Posts and Question Text Embeddings", Findings of Empirical Methods in Natural Language Processing (EMNLP), 2020
- M Matero, A Idnani, Huy Vu, et al., "Suicide Risk Assessment with Multi-level Dual-Context Language and BERT", Proceedings of the 6th Workshop on Computational Linguistics and Clinical Psychology, 2019
- D Nguyen, Huy Vu, et al., "3D-Brain Segmentation Using Deep Neural Network and Gaussian Mixture Model", IEEE Winter Conference on Applications of Computer Vision (WACV), 2017

## AWARDS AND ACHIEVEMENTS

- Merit Fellowship \$5000 2018 - 2019 (Computer Science Department, Stony Brook University)
- National Program for the Development of Mathematics 2013 and 2016 (Vietnam Institute for Advanced Study in Mathematics)
- Exchange Program Scholarship 2014 - 2015 (Tokyo University of Agriculture and Technology, Japan)
- Excellence in Academic Activities 2013 (Ho Chi Minh University of Science)
- KumHo Asiana Scholarship 2012 (1st-ranked students in university's entrance, KumHo Asiana Vietnam)