

Long Giang Vu

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EDUCATION

Hanoi University of Science and Technology BENG IN COMPUTER SCIENCE

Hanoi, VIE | 8/2018 - 3/2023

- CPA: 3.76/4.0 (9.4/10): Rank 6 out of 200 students in the cohort.
- Graduation thesis: 9.7/10, highest score in Machine Learning thesis committee.

INDUSTRY AND RESEARCH EXPERIENCES

DATA SOFTWARE ENGINEER | VIETTEL GROUP

Hanoi, VIE | 6/2023-present

- Viettel Group is the leading technology corporation in Vietnam, the most valuable telecoms brand in Southeast Asia and one of top 30 world telecoms brands.
- Research, propose and develop the model serving feature for Viettel Machine Learning Platform (vMLP).
- Upgrade recommendation pipeline of Viettel Recommendation Platform (vRP).

RESEARCH ASSISTANT | DATA SCIENCE LABORATORY - HUST

Hanoi, VIE | 4/2021 - 6/2023

- Data Science Lab is the Hanoi University of Science and Technology Laboratory doing research in Machine Learning and related fields.
- Do experiments to verify the effect of normalization techniques on the generalization capability of deep neural networks.
- Research Deep Generative Models, specifically Diffusion Models. Propose another perspective of Diffusion Models and a novel method based on generalization theory to boost the sampling phase of Diffusion Models.
- Take part in several courses related to fundamental machine learning: statistical and probabilistic, linear algebra, analytics, and graphical models.

AI ENGINEER | TOPCV VIETNAM

Hanoi, VIE | 1/2022 - 4/2023

- TopCV is a rising start-up working in the human resource management field. The company joined Google for Startups Accelerator: Southeast Asia program in 2020 as one of two representatives from Vietnam.
- Join R&D team, research and develop the recommendation system for topcv.vn website, focus on personalizing recommendation results using deep learning solutions: Neural hash, learning to rank, ...
- Propose SmartRank (applied in reranking phase) which increases the click-through-impression metric by nearly 2% in high-traffic boxes.
- Develop internal libraries solving technical challenges such as index-preserving in natural language processing.
- Develop and operate the duplicate checking system which prevents job spam on TopCV platform.

AI ENGINEER INTERN | TOPCV VIETNAM

Hanoi, VIE | 7/2021 - 12/2021

- Do research in spelling correction, which was then applied to job-title checking on TopCV website.

ML ENGINEER INTERN | VIETNAM COMMUNICATION CORPORATION

Hanoi, VIE | 10/2020 - 4/2021

- VCCorp is a Vietnam corporation working mainly in the media industry.
- Build simple models such as text classifier, name entity recognition supporting advertising processes.
- Take part in training courses including basic coding, networking, security, and basic machine learning.

PROJECTS

DROPOUT DIFFUSION

PYTHON, PYTORCH

- This project was presented as my graduation thesis and achieved **the highest score** in the Machine Learning thesis committee of the Thesis Defense 2023.1 - HUST.
- Propose another view of Diffusion Models which allows analyzing and developing it as an end-to-end neural net.
- Propose a novel method using the Dropout technique to boost the sampling rate of Diffusion Models.

- Clarify the importance of noise schedule in model performance and propose guidance to create proper noise schedules.
- Prove the effectiveness in both theory and experiment of exponential noise schedule and dropout technique in the diffusion model.

IMAGE CAPTIONING

PYTHON, PYTORCH

- Survey and analyze classes of model in image captioning task.
- Pre-process VizWiz to get a new smaller dataset for the experiment.
- Build Show, Attend, and Tell model from scratch and finetune OSCAR+ model for evaluation and comparison.

PUBLICATIONS

- Viet Nguyen*, **Giang Vu***, Tung Nguyen Thanh, Khoat Than, Toan Tran. "On inference stability for diffusion models". *Thirty-eighth AAAI Conference on Artificial Intelligence, 2024*. (Oral presentation, "*" indicates equal contributions, the order is random)

HONORS AND AWARDS

First prize TopCV coding Contest (both individual and team competition) TopCV Vietnam | 3/2023
Coding Contest is the coding competition for TopCV developers, focusing on data structures and algorithms.

The Excellence Scholarship for Undergraduate HUST | 12/2021
Scholarship for 5% best undergraduate regarding CPA at Hanoi University of Science and Technology.

The Excellence Scholarship for Undergraduate HUST | 12/2020
Scholarship for 5% best undergraduate regarding CPA at Hanoi University of Science and Technology.

Top 0.05% in the entrance examination to Vietnam Universities VIE | 8/2018
Rank 70 out of 329 404 candidates (A00 combination) in the entrance examination to Vietnam Universities.

First prize in provincial mathematics competition for gifted students Bacninh, VIE | 4/2018
Annual competition at the provincial level for gifted students.

CERTIFICATES

English certificate: IELTS 7.0

Innovation Challenge for Vietnamese Developers - Data Science Track (Facebook Developer Circle)

Coursera: Natural Language Processing with Classification and Vector Spaces, IBM Introduction to Data Engineering

SKILLS

Programming Languages: Python, JS

Machine Learning: Scikit-learn, Pytorch, Nltk

Data manipulation: SQL, Pandas, Numpy, Modin, Dask, Big Query, DVC (Data version control), Label studio

Engineering skills: Git, GCP, Linux, Docker, Airflow, Mlflow

REFERENCES

Khoat Than, Assoc. Professor Head of DSLab | HUST

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