

Pham Anh Cuong

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Background and Research Interests

My research interests focus on **Machine Learning theory** (especially **Mathematics for Machine Learning**), based on the motivation to analyze the way Machine Learning and Deep Learning models work from my previous working experience as an AI Engineer/Data Scientist, and also from my ten years as a Mathematics competitor. I also share an interest in the **Applications of AI**.

Education

Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)

MSc in Machine Learning

08/2024 – present

Abu Dhabi, UAE

- Supervised by Dr. Samuel Horváth (primary) and Dr. Nils Lukas (co-supervisor).
- Studying Optimization for Machine Learning, also a bit of Federated Optimization.

VNU University of Engineering and Technology (VNU-UET)

BS in Information Technology (Honors)

08/2019 – 06/2023

Hanoi, Vietnam

- Graduated with High Distinction (GPA 3.71/4.0 or 8.77/10 - top 5% of CS department) [*Transcript*].
- Thesis: "Building a Vietnamese image captioning dataset and developing a visual-text transformation model for generating image captions" (in Vietnamese) (9.5/10).
- Supervised by Assoc. Prof. Quang-Thuy Ha, Dr. Van-Quang Nguyen (co-sup), MSc. Thi-Hong Vuong (co-sup).

Phan Boi Chau High School for the Gifted

High school diploma, Specialized in Mathematics

08/2016 – 05/2019

Nghe An, Vietnam

- Attended Vietnam Mathematical Olympiad (VMO) for high school students (2019).

Experience

Viettel Networks

Data Scientist

10/2023 – 07/2024

Hanoi, Vietnam

- Researching and applying Computer Vision (image processing, segmentation, classification) in telecommunication.
- Solving big data problems (using Machine Learning with GPUs) for optimizing and automating with large-scale data, from 100M to 1B records (in telecommunication).

DSKT Laboratory, VNU-UET

Student Research Intern

09/2021 – 09/2023

Hanoi, Vietnam

- Studied about Multi-view Time Series Forecasting.
- Project: Continual Learning in Natural Language Processing. This project applied a prototype augmentation mechanism to consistent representation learning to reduce saving data for the next phase of continual learning but still alleviate the forgetting problem [*Paper C1*].
- Thesis Project: Image Captioning in Computer Vision. This project created a new image-caption dataset in Vietnamese and evaluated it with the best-performance Image Captioning models for English at that time [*Paper P1*].

Giaohangtietkiem JSC

R&D Engineer

05/2022 – 08/2023

Hanoi, Vietnam

- Researched and developed a mail spam filtering based on Deep Learning methods, achieving the f1-score of 90% after training with 50k emails, it was then deployed to the company's internal email system.
- Learning about chatbot architecture.
- MasterDev Season 4 Internship Program in Research and Development domain - Training about Probability & Statistics, Natural Language Processing, some Big Data frameworks such as Hadoop and Spark (05/2022 - 08/2022).

Honors and Awards

Fully-funded Master's scholarship at MBZUAI

2024

Third Prize in Linear Algebra (for rank 4-6), UET Mathematical Olympiad

2021, 2022, 2023

Yamada Scholarship

2022

Excellent Scholarship for top highest GPA from VNU-UET

2021

Skills

Programming Languages: Python, Java, C, C++ (all usable), HTML/CSS, JavaScript, MySQL (all basic)

Technologies and Frameworks: PyTorch, Linux, Docker (usable), Hadoop, Spark, Laravel (all basic)

Additional Working Skills: Microsoft Office, LaTeX, Git

Communication: Vietnamese (native), English (with TOEIC LR 855, IELTS 7.0).

Publications

- [C1] Quynh-Trang Pham Thi, **Anh-Cuong Pham**, Ngoc-Huyen Ngo and Duc-Trong Le, "Memory-Based Method using Prototype Augmentation for Continual Relation Extraction," 2022 RIVF International Conference on Computing and Communication Technologies (RIVF), Ho Chi Minh City, Vietnam, 2022.
- [P1] **Anh-Cuong Pham**, Van-Quang Nguyen, Thi-Hong Vuong, Quang-Thuy Ha, "KTVIC: A Vietnamese Image Captioning Dataset on the Life Domain." arXiv preprint arXiv:2401.08100.

References

- **Dr. Samuel Horvath, Assistant Professor at MBZUAI (UAE)**
✉ samuel.horvath@mbzuai.ac.ae 🌐 Website
- **Dr. Nguyen Van Quang, Researcher at RIKEN AIP (Japan)**
✉ quang@vision.is.tohoku.ac.jp 🌐 Google Scholar
- **Dr. Ha Quang Thuy, Associate Professor at VNU-UET (Vietnam)**
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