

Cuong Pham

(or Phạm Anh Cường)

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📍 pacman-ctm.github.io

in [anhcuong-pham](https://github.com/pacman-ctm)

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My research interests focus on **Theory of AI** (especially about **Mathematics for Machine Learning/Deep Learning** such as **Optimization**), based on the motivation to analyze the way Machine Learning and Deep Learning models work from my 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

- 08/2024–
present **MSc in Machine Learning**, *Mohamed bin Zayed University of Artificial Intelligence*, UAE
 - Supervised by [Dr. Samuel Horváth](#) (primary) and [Dr. Nils Lukas](#) (co-supervisor).
 - Studying [Optimization for Machine Learning](#), also a bit of [Federated Optimization](#).
- 08/2019–
06/2023 **BSc in Information Technology (Honors)**, *VNU University of Engineering and Technology*, 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 from RIKEN AIP), [MSc. Thi-Hong Vuong](#) (co-sup).
- 08/2016–
05/2019 **High school diploma, Specialized in Mathematics**, *Phan Boi Chau High School for the Gifted*, Vietnam
 - Attended [Vietnam Mathematical Olympiad \(VMO\)](#) for high school students (2019).

Experience

Research Experience

- 10/2024–
Present **Graduate Research Assistant**, *Mohamed bin Zayed University of Artificial Intelligence*, UAE
 - Participating in a project about Optimizing SGD using adaptive stepsize.
- 09/2021–
09/2023 **Student Research Intern**, *DSKT Laboratory at VNU-UET*, 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*].
 - 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*].

Industrial Experience

- 10/2023–
07/2024 **Data Scientist**, *Viettel Networks*, 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).
- 05/2022–
08/2023 **R&D Engineer**, *Giaohangtiethiem JSC*, 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

- 2024 Fully-funded Master's scholarship at MBZUAI
- 2021–2023 Third Prizes (x3) in Linear Algebra (for rank 4–6), UET Mathematical Olympiad
- 2022 Yamada Scholarship
- 2021 Excellent Scholarship for top highest GPA from VNU-UET

Skills

Programming Python, Java, C, C++ (all usable), HTML/CSS, JavaScript, MySQL (all basic).
Technologies PyTorch, Scikit-learn, Linux, Docker (usable), Hadoop, Spark, Laravel (all basic).
Additional Microsoft Office, LaTeX, Git.
Language Vietnamese (native), English (with TOEIC LR 855, IELTS 7.0).

Undergraduate Research Papers

- [Preprint] **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.
- [RIVF 2022] 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.

References

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

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