

Duong M. Nguyen

Machine Learning Researcher / Engineer

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Education

Aug 2025 – Present

University of Illinois Urbana Champaign (UIUC), USA

Computer Science - Artificial Intelligence

- PhD in Computer Science
- Expected day of graduation: May 2030

Sep 2021 – Jul 2025

Hanoi University of Science and Technology (HUST), Vietnam

Computer Science - Data Science

- BS. in Data Science & Artificial Intelligence (Advanced Program)
- GPA: 4.0/4.0

Fields of Interest

1. Foundational AI: Multimodal Learning, Federated Learning, Generative Models, Vision-Language Model
2. Applied AI: AI in Healthcare (histological imaging, cellular digital twins, ...)

Selected Publications

Conference Papers

1. **Duong M. Nguyen**, Trong Nghia Hoang, Thanh Trung Huynh, Quoc Viet Hung Nguyen, Phi Le Nguyen, **Learning Reconfigurable Representations for Multimodal Federated Learning with Missing Data**, 39th Conference on Neural Information Processing Systems (NeurIPS 2025 - Rank A*).
2. **Duong M. Nguyen**, Tuan Nghia Nguyen, Xuan Truong Nguyen, **ENAF: A Multi-Exit Network with an Adaptive Patch Fusion for Large Image Super Resolution**, IEEE/CVF Winter Conference on Applications of Computer Vision (WACV 2025 - Rank A).
3. **Duong M. Nguyen**, Dac Thai Nguyen, Trung Viet Nguyen, Homi Yamada, Huy Hieu Pham, Phi Le Nguyen, **Bridging Classification and Segmentation in Osteosarcoma Assessment via Foundation and Discrete Diffusion Models**, 2025 IEEE International Symposium on Biomedical Imaging (ISBI 2025 - Rank A).
4. Thu Hang Phung, **Duong M. Nguyen**, Thanh Trung Huynh, Quoc Viet Hung Nguyen, Trong Nghia Hoang, Phi Le Nguyen **Federated Prompt-Tuning with Heterogeneous and Incomplete Multimodal Client Data**, 2025 International Conference on Computer Vision (ICCV 2025 - Rank A*).
5. **Duong M. Nguyen**, Nguyen Dang Huy Pham, Phi Le Nguyen, Minh N. Do, **A Semi-Supervised Learning Framework with Cross-Magnification Attention for Glioma Mitosis Classification**, 2025 IEEE International Symposium on Biomedical Imaging (ISBI 2025 - Rank A).
6. **Duong M. Nguyen**, Trung Thanh Nguyen, Huy Hieu Pham, Trong Nghia Hoang, Phi Le Nguyen, Thanh Trung Huynh, **FedMAC: Tackling Partial-Modality Missing in Federated Learning with Cross-Modal Aggregation and Contrastive Regularization**, 22nd International Symposium on Network Computing and Applications (NCA 2024 - Rank B).

Transaction Papers

1. Nguyen Thi Bang Linh, Nguyen Hoang Ninh, Pham Van Thong, Tran Ngoc Dung, **Duong M. Nguyen**, Le Thi Duyen, Nguyen Thi Quynh Trang, Le Thi Hong Hai, Nguyen Thi Thanh Chi, **Platinum(II) complexes bearing the simplest olefin ligand: A new class potential for the development of anticancer drugs**, Polyhedron, Volume 261, ISSN 0277-5387, <https://doi.org/10.1016/j.poly.2024.117117> (Q3 Journal).

Research Experience and Projects

Nov 2024 - Aug 2025	Institute of AI Innovation and Societal Impact (AI4LIFE), HUST Research Assistant - Dataset Condensation; Federated Learning - Supervisor: Prof. Phi Le Nguyen & Prof. Minh N. Do - Description: Developing novel methods to (1) condense visual-word bags from histological images for efficient unsupervised processing, and (2) remain robust to varying modality-missing patterns in heterogeneous federated systems.
Jan 2025 - June 2025	Coordinated Science Laboratory, UIUC Research Intern - Deep Digital Twins - Supervisor: Prof. Minh N. Do - Description: Building learnable digital twins for cell growth experiments to reduce labor cost. Focus on physics-informed neural networks.
Mar 2024 - Dec 2024	VinUni-Illinois Smart Health Center (VISHC), VinUni Research Assistant - Digital Pathology - Supervisor: Prof. Phi Le Nguyen & Prof. Hieu Huy Pham - Description: Building advanced digital pathology algorithms for necrosis assessment and automated analysis.

Honors and Awards

2025	Best Presentation Award - School of Information and Communication Graduation Receive the Best Presentation Award for the graduation thesis "Bridging Classification and Segmentation in Osteosarcoma Assessment via Foundation and Discrete Diffusion Models".
2023	Finalist - SoICT Hackathon 2023 Ensemble learning of multiple models to enhance performance of recognition system.
2019	Second Prize - Vietnam Science and Engineering Fair 2019 (ViSEF) Synthesis of some Platinum (II) complexes containing ethylene and heterocyclic amines; oriented towards application in cancer chemotherapy.

Skills

Programming Languages	Python, Java, C/C++
Machine Learning Frameworks	Scikit-learn, Numpy, Seaborn, OpenCV, PyTorch, TensorFlow
Operating Systems	Linux, Windows
Database Management	MySQL, PostgreSQL
Others	Teamwork management, Leadership, Public speaking, Self-motivated

Language Skills

- Vietnamese (Native)
- English (IELTS 7.5 - 2024)

References

Prof. Minh N. Do
Thomas and Margaret Huang Endowed Professor
Department of Electrical and Computer Engineering, University of Illinois Urbana-Champaign
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