Duong M. Nguyen

Computer Science - Machine Learning

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Education

Aug 2025 – May 2030	**University of Illinois Urbana Champaign (UIUC)** *Computer Science - Artificial Intelligence* • PhD in Computer Science • Status: PhD Student
Sep 2021 – Jul 2025	**Hanoi University of Science and Technology (HUST)** *Computer Science - Application Specialist* • Advanced Program - Data Science and Artificial Intelligence • GPA: 4.0/4.0 - CPA: 3.94/4.0

Selected Publications

Transaction Papers

1. Nguyen Thi Bang Linh, Nguyen Hoang Ninh, Pham Van Thong, Tran Ngoc Dung, **Nguyen Manh Duong**, 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).

Conference Papers

1. **Manh Duong 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).

2. **Manh Duong 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. **Manh Duong 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).

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. **Manh Duong 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).

6. Minh Hieu Nguyen, Huu Tien Nguyen, Trung Thanh Nguyen, **Manh Duong Nguyen**, Trong Nghia Hoang, Truong Thao Nguyen, Phi Le Nguyen, **FedCert: Federated Accuracy Certification**, 22nd International Symposium on Network Computing and Applications (NCA 2024 - Rank B).

Fields of Interest

1. Foundational AI: Foundation Models, Multimodal Learning, Federated Learning, Generative Models
2. Applied AI: AI in Healthcare

Research Experience and Projects

Nov 2024 - Present | **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: Develop 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 Assistant - Deep Digital Twins
- Supervisor: Prof. Minh N. Do
- Description: Build 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: Build advanced digital pathology algorithms for necrosis assessment and automated analysis.

Honors and Awards

2025 | **Best Presentation Award - SoICT Graduation Day**
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 - ISEF 2019 (National round)**
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 | Listening: 9.0, Writing: 7.5)

References

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