Duc-Anh Nguyen

🔗 Personal Website | 🔗 ducanhng | ✉ ducanhng.work

RESEARCH INTERESTS

So far, my research focus lies in Person Tracking Systems and Image Processing. Recently I also broaden my scope to Cross-Modal Learning, Multi-Agent Systems and LLM.

EDUCATION

VNU University of Engineering and Technology   Sep 2019 - Jul 2023

Bachelor of Science (Honors) in Information Systems   Hanoi, Vietnam

- Cumulative GPA: 3.61/4.
- Thesis: *Combining GAN-based Data Augmentation and Pseudo-label Refinement with Holistic features for enhancing Unsupervised person re-identification*, Supervised by Assoc. Prof. Hoa N. Nguyen. Thesis Grade: 9.9/10

SKILLS

Programming languages	Python, C++.
Familiar with MLOps technology	Pytorch, Tensorflow, Docker, AWS services, Airflow, Multiprocessing.
Have knowledge of	Database(SQL/NoSQL), Graph, Restful API, Big Data(Kafka, Spark), Data Analysis (Pandas, Numpy), EDA, Data Visualization (Matplotlib, PowerBI) and Linux.

WORK EXPERIENCE

VNU University of Engineering and Technology   Hanoi, Vietnam

Assistant Lecturer   Sep 2023 - present

- Provided support for teachers in many crucial courses such as Databases, Computer Architecture, Big Data and Project Management, then planned and implemented practical sessions.
- Partnered with professors to plan and implement lessons following the school's curriculum, goals, and objectives.
- Study problem on person tracking and generative AI. Analyze, conduct experiments, evaluate the suggested solutions and write multiple scientific paper

HEYHI   Singapore

AI Engineer   April 2023 - April 2024

- Research solutions for digital transformation and adaptive learning in education such as PDF OCR, Knowledge Tracing, Knowledge Graph, LLM, RAG.
- Design and develop the AI engine for personalized adaptive learning system and education Chatbot (link).
- Deploy, optimize and maintain ML models, request processing pipelines on cloud services such as AWS lambda, AWS S3.

NAUTILUS TECH. JSC   Hanoi, Vietnam

Computer Vision Engineer Intern   May 2022 - Oct 2022

- Research solutions based on machine learning for AI camera problems as object detection, tracking, person reID, unsupervised learning.
- Performed requirements analysis on product new features and collaborated with BA and Dev teams in the product development process (Scrum).

HONORS AND AWARDS

1st Prize - Science and Technology Award for Students in Higher Education Institutions of the Ministry of Education and Training of Vietnam 2023 (link)

1st Prize - Science and Technology Award for Students of VNU University of Engineering and Technology 2023

Typical Student of Year Awards, VNU University of Engineering and Technology 2022

Excellent Student Awards, VNU University of Engineering and Technology in 2020, 2021, 2022, 2023.

SELECTED PUBLICATIONS

Pham, Dang H., Anh D. Nguyen, and Hoa N. Nguyen (2024). "GAN-based data augmentation and pseudo-label refinement with holistic features for unsupervised domain adaptation person re-identification". In: *Knowledge-Based Systems*, p. 111471. ISSN: 0950-7051. DOI: 10.1016/j.knosys.2024.111471.

Nguyen, Anh D., Dang H. Pham, Duc M. Nguyen, and Hoa N. Nguyen (2024). "cMDTPS: Comprehensive Masked Modality Modeling with improved similarity distribution matching loss for Text-based Person Search". In: *The 13th Conference on Information Technology and Its Applications*. Springer Nature Switzerland.

Du, Hanh P., Anh D. Nguyen, Dat T. Nguyen, and Hoa N. Nguyen (2023a). "A Novel Deep Ensemble Learning to Enhance User Authentication in Autonomous Vehicles". In: *IEEE Transactions on Automation Science and Engineering (T-ASE)*, pp. 1–14. ISSN: 1558-3783. DOI: 10.1109/TASE.2023.3270764.

– (2023b). "μPEWFace: Parallel ensemble of weighted deep convolutional neural networks with novel loss functions for face-based authentication". In: *Image and Vision Computing* 139.104819. ISSN: 0262-8856. DOI: 10.1016/j.imavis.2023.104819.

Pham, Dang H., Anh D. Nguyen, Long V. Vu, and Hoa N. Nguyen (2023). "IQAGA: Image Quality Assessment-Driven Learning with GAN-Based Dataset Augmentation for Cross-Domain Person Re-Identification". In: *Proceedings of the 12th International Symposium on Information and Communication Technology*. SOICT '23. New York, NY, USA: Association for Computing Machinery, pp. 63–70. ISBN: 9798400708916. DOI: 10.1145/3628797.3628961.

Nguyen, Anh D., Dang H. Pham, and Hoa N. Nguyen (2023). "GAN-Based Data Augmentation and Pseudo-label Refinement for Unsupervised Domain Adaptation Person Re-identification". In: *Computational Collective Intelligence*. Cham: Springer Nature Switzerland, pp. 591–605. ISBN: 978-3-031-41456-5. DOI: 10.1007/978-3-031-41456-5_45.

Nguyen, Anh D., Dat T. Nguyen, Hanh P. Du, Hai N. Dao, and Hoa N. Nguyen (2022). "EnsFace: An Ensemble Method of Deep Convolutional Neural Networks with Novel Effective Loss Functions for Face Recognition". In: SoICT 2022. ACM, pp. 231–238. ISBN: 9781450397254. DOI: 10.1145/3568562.3568638.

Nguyen, Anh D., Dat T. Nguyen, Hai N. Dao, Hai H. Le, and Nam Q. Tran (2022). "Impact Analysis of Different Effective Loss Functions by Using Deep Convolutional Neural Network for Face Recognition". In: *From Born-Physical to Born-Virtual: Augmenting Intelligence in Digital Libraries*. Ed. by Yuen-Hsien Tseng, Marie Katsurai, and Hoa N. Nguyen. Cham: Springer International Publishing, pp. 101–111. ISBN: 978-3-031-21756-2. DOI: 10.1007/978-3-031-21756-2_8.

REFERENCES

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