Pham Tran Minh Quang

Ph.D. student at Media System lab, SKKU.

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EXPERIENCE

Media System Lab, SKKU, Korea — Ph.D. *Researcher*

SEP 2018 - PRESENT

Medical image analysis using deep learning. CNN and GAN for medical image generation. LSTM and GNN disease prediction.

GAN model for face aging tasks.

Diffusion for image editing.

Large Language Model for generative agents.

Daewoong Foundation, Korea — *Participant*

JAN 2021 - JUL 2021

Daewoong Ai & Big Data Global Scholarship Program: Denovo Drug Design (Graph Network, RNN, LSTM, GAN).

VinaDigital Co., Ho Chi Minh City, Viet Nam —*Intern*

JUL 2015 - SEP 2015

Working on a food recommender system for hotels. (ANN, Association rule).

Bach Khoa University, Ho Chi Minh City, Viet Nam —Student Researcher

JUL 2016 - APR 2017

Prediction of romantic relationships via interactions on the social network. (Graph theory, text classification, and machine learning models).

EDUCATION

Sungkyunkwan University, Korea— *Ph.D. (Combined Program)*

SEP 2018 - PRESENT **(Expected Graduation August 2023)**

GPA: 4.47/4.5

Media System lab.

Ho Chi Minh City University of Technology, Ho Chi Minh City — *Bachelor's degree*

SEP 2012 - APR 2017.

Honors Program in Computer Science.

GPA: 8.74/10 - Rank 4/330

SKILLS

Deep Learning: CNN, GAN, LSTM, NLP, GNN, Diffusion, LLM.

Libraries: Pytorch, Tensorflow, OpenCV, Langchain, Guidance.

Programming languages: Python, C++, Java.

Other: Ubuntu, AWS EC2.

AWARDS

2021 - Daewoong AI & Big Data Global Scholarship

2019 - Daewoong Foundation Woongtoring School Scholarship.

2017 - Top 10 team at Topica AI Edtech Asia Hackathon 2017.

2017 - Top 9% (Bronze medal) Kaggle Competition: The Nature Conservancy Fisheries Monitoring.

2015- Third Prize at Raise Your ARM 2015. The Robotics Competition by HCMUT, Vietnam.

2012 - Third Prize at the National Physics Olympiad, Vietnam.

2011 - Top 3 (Gold medal) at the Physics Olympic contest for High School Students, in Vietnam.

LANGUAGES

English: IELTS 6.5.

PUBLICATIONS

Journal

[1] **Quang T. M. Pham**, SangIl Ahn, Jitae Shin, and Su Jeong Song, "Generating future fundus images for early age-related macular degeneration based on generative adversarial networks," Computer Methods and Programs in Biomedicine, Volume 216, Apr. 2022.

[2] **Quang T. M. Pham**, J. C. Han, D. Y. Park, and J. Shin, "Multimodal Deep Learning Model of Predicting Future Visual Field for Glaucoma Patients," in IEEE Access, vol. 11, pp. 19049-19058, 2023, doi: 10.1109/ACCESS.2023.3248065.

[3] SangIl Ahn, **Quang T. M. Pham**, Jitae Shin, and Su Jeong Song, "Future Image Synthesis for Diabetic Retinopathy Based on Lesion Occurrence Probability," Special Issue "Deep Learning for Medical Images: Challenges and Solutions", Electronics 2021, 10, 726. https://doi.org/10.3390/electronics10060726, Mar. 19, 2021.

[4] **Quang T. M. Pham**, SangIl Ahn, Su Jeong Song, and Jitae Shin, "Automatic Drusen Segmentation for Age-Related Macular Degeneration in Fundus Images Using Deep Learning," Electronics 2020, 9(10), 1617; https://doi.org/10.3390/electronics9101617 - 01 Oct 2020, Oct. 01, 2020.

[5] **Quang T. M. Pham**, Janghoon Yang, and Jitae Shin, "Semi-supervised FaceGAN for face-age progression and regression with synthesized paired images," Electronics 2020, Vol 9, No. 4, 603, Apr. 2020.

Conference

[1] **Quang T. M. Pham**, Han, J.C., Shin, J. (2022). Visual Field Prediction with Missing and Noisy Data Based on Distance-Based Loss. In: Zamzmi, G., Antani, S., Bagci, U., Linguraru, M.G., Rajaraman, S., Xue, Z. (eds) Medical Image Learning with Limited and Noisy Data. MILLanD 2022.

[2] **Quang T. M. Pham** and J. Shin, "Generative Adversarial Networks for Retinal Image Enhancement with Pathological Information," 2021 15th International Conference on Ubiquitous Information Management and Communication (IMCOM), Seoul, Korea (South), 2021, pp. 1-4, doi: 10.1109/IMCOM51814.2021.9377363.

[3] **Quang T.M. Pham**, Han, J.C., Shin, J, "Predicting the visual field of glaucoma patients with contrastive learning [p1-73]," IPIU 2023, Feb. 08, 2023.

Patent

[1] 국내특허등록 - 인공지능기반 황반 변성 악화 예측 장치 및 방법.