Chuong Huynh

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Education

University of Science - Vietnam National University — Ho Chi Minh City, Vietnam
Bachelor of Science in Honors Program - Information Technology — 2014–2018

- GPA: 3.56/4.00
- Program ranking: 8/45
- Thesis: 4.00/4.00

Research and Working Experience

VinAI Research — Hanoi, Vietnam
Resident at AI Residency Program — 7/2019 – present

- High-resolution Semantic Segmentation
- Build a model that effectively segments high-resolution images

Cao Thang International Hospital — Ho Chi Minh City, Vietnam
AI Engineer — 01/2019 – 06/2019

- Retinal Disease Diagnosis
- Using Deep Neural Networks to support doctors in disease diagnosis

AI Lab, VNU-HCMUS — Ho Chi Minh City, Vietnam
Research Intern — 11/2016 – 02/2017

- Medical Diagnosis and Searching System
- Using clustering algorithms to group crawled medical data and build semantic graph about diseases

Published and under-review papers

[1] Chuong Huynh, Trung-Hieu Nguyen, and Minh-Triet Tran. "Context Learning for Bone Shadow Exclusion in CheXNet Accuracy Improvement". In: *the Conference on Knowledge and System Engineering (KSE) 2018.*

[2] Chuong Huynh, Anh Tran, Khoa Luu, and Minh-Hoai Nguyen. "Progressive Semantic Segmentation". In: *under review at the Conference on Computer Vision and Pattern Recognition (CVPR) 2021.*

Teaching

- **Lecturer** at VietAI — From 9/2018
  Machine Learning Foundation and Advanced Computer Vision Class
- **Instructor** at U.S. Embassy in Hanoi — 11-12/2019
  Get-In-Tech series: Artificial Intelligence & Machine Learning

Projects

High-res image segmentation (From 7/2019): To build a multi-scale network that can leverage global information and local details at different scale levels. The model effectively segments high-resolution images under memory constraints with a large margin from other SOTA methods. This project is submitted to CVPR 2021.

Thorax Disease Diagnosis (2017-2018): By building an autoencoder to automatically exclude bone shadow from chest X-ray images, the processed images can help diagnosis models work better. This project was accepted at KSE 2018.

Retinal Disease Diagnosis (2019): Helping doctors in a variety of tasks relating to retinal diagnosis with color fundus images: detect and segment retinal components and lesions with Mask-CNN and U-net; predict retinal diseases with accuracy $> 95\%$ with EfficientNet models; deploy and integrate models to the hospital system.

VNCare (2016-2017): Using Vietnamese Tokenizer and clustering algorithms to extract information from crawled text, we built a medical search tool that helps patients diagnosis their illness by input symptoms.

Awards

- **Top 2%** in *FGVC Challenge, CVPRW 2020* 2020
  Rank 19th among 1,317 global teams with accuracy of 97.71% (The winner's was 98.45%)
- **Third Prize** in *Ho Chi Minh City - AI City Challenge, Vietnam* 2020
  Rank 3rd among 217 teams with error rate of 2.96 (The winnder's was 2.73)
- **Bronze medal** (top 7%) in *APTOS Kaggle Competition* 2019
  Rank 196th among 2,931 global teams with accuracy of 91.76% (The winner's was 93.61%)
- **Best poster presentation** in *Southeast Asia Machine Learning School, Indonesia* 2019
  Rank 1st among 50 posters from companies and universities of 11 Southeast Asia countries
- **Third Prize** in *National Eureka Award, Vietnam* 2018
  Rank 4th among around 100 projects from national universities
- **Third Prize** in *Olympiad in Informatics for Students, Vietnam* 2015
  Rank 3rd among 100 students taking part in

Skills

- **Programming languages:** Python, C/C++, Java, Javascript, Android/iOS
- **ML Frameworks:** Pytorch, Tensorflow
- **Others:** Git, Docker, OpenCV, Kafka, Spark

Languages

- **Vietnamese:** Native
- **English:** Fluent
  - **IELTS:** 7.0 (L: 7.5, R: 6.5, W: 7.0, S: 6.5)

References

- Professor Minh Hoai — Stony Brook University, U.S.A. - VinAI Research, Vietnam
  Email: minhhoai@cs.stonybrook.edu
- Professor Minh-Triet Tran — VNU-HCMUS, Vietnam
  Email: tmtriet@hcmus.edu.vn
- Dr. Minh-Thang Luong — Google Brain, U.S.A. - VietAI, Vietnam
  Email: thangluong@google.com