

KHOA VAN TRAN

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<https://khoatranrb.github.io/>

OVERVIEW

- I'm student and researcher about Machine/Deep Learning at University of Engineering and Technology - Vietnam National University.

EDUCATION

University of Engineering and Technology - Vietnam National University, Hanoi Sep. 2018 – Sep. 2022
Bachelor of Engineering in Robotics Engineering *Hanoi, Vietnam*

EXPERIENCE

EASTGATE Software

August 2020 – present

AI Engineer Intern *Hanoi, Vietnam*

- Object Detection: Implement and apply some popular object detection models: Yolo, WPODNet, SSD, CenterNet etc.
- OCR: Train and retrain some pretrained models (CRNN, Tesseract, PaddleOCR, etc).
- Image Processing: use some algorithm like Hough line transform, Feature matching, 2D discrete Fourier transform to process and analyze image.
- NLP: Build model (Named entity recognition, Question Answering, graph computation model) to extract information of documents, invoices.
- Key information extraction: Train model to understand invoice content using SDMGR model and LayoutLM model.

AIGO - We make AI works

January 2020 – March 2020

AI Engineer Intern *Hanoi, Vietnam*

- Study about Convolution Neural Network, build Deep Learning pipeline for Image classify task and build AI web app with Dash framework under the lead of Dr. Tran Quoc Long.
- Use Haar Cascade on OpenCV for Face detector task.

RESEARCH EXPERIENCE

UET-AI lab

September 2019 – present

AI Researcher *Hanoi, Vietnam*

- Research under the lead of Dr. Tran Quoc Long.
- Image Enhancement and Image Quality Assessment:
 - * Implement state-of-the-art models and evaluate on benchmark datasets. Develop differentiable function to extract some special feature image.
- Chatbot:
 - * Research about Natural Language Understanding and Dialogue System Tracking.
- Optimization and Reinforcement Learning:
 - * Apply Optimal Control Problem to neural network optimizer to improve very deep models.
- Research about implicit models and Deep Equilibrium Models

AI Vietnam Online Lab

February 2020 – December 2020

AI Researcher *Hanoi, Vietnam*

- Research under the lead of Dr. Dinh Quang Vinh.
- Research topics:
 - * Image Enhancement
 - * Research about multi-class representation and one-class representation.
- Research results:
 - * A paper has accepted at The 9th International Conference on Smart Media and Applications (SMA 2020).

RESEARCH PUBLICATIONS

- **End-to-end Deep Network for Image Denoising and Colorization.**

Khoa Tran Van, Vinh Dinh Quang, Phuc Nguyen Hong, Narayan Debnath C, Tuan-Duc Nguyen, Chang Wook Ahn.
The 9th International Conference on Smart Media and Applications (SMA 2020).

SKILLS

Knowledge base:

- Mathematics: Statistics, Linear Algebra.
- Computer Vision: Object detection, OCR, GAN, etc.
- Natural Language Processing: Named entity recognition, Question Answering, Machine translation, etc.

Programming:

- Python: Tensorflow, Pytorch, etc.
- C/C++.