

TUAN-ANH BUI

tuananh.bui@monash.edu

Website ◇ Scholar ◇ Github ◇ LinkedIn

EDUCATION

Faculty of Information Technology, Monash University

Nov 2019 - Present

PhD student in Computer Science

Australia

- Research topics: Adversarial Machine Learning, Representation Learning, Generative model.

Hanoi University of Science and Technology

2007 - 2012

B.Sc. in Electronics and Telecommunications (Honour)

Vietnam

- Thesis title: "Research on optimal trade-off between power saving and QoS".
- Thesis grade: 4/4 (10/10) (Best Thesis Award).
- GPA: 8.44/10 (top 5%, Merit for Excellent Graduate Student)

EXPERIENCE

Faculty of Information Technology, Monash University

2020 -

Teaching Associate

Australia

- Deep Learning units (FIT3181, FIT5215), Semester 2 (200+ students).
- Preparing teaching materials including tutorials (in TF1.X and TF2.X) and queries (for assessment).

RapidAI

2021 - 2021

Machine Learning Consultant

Remote

- Develop machine learning model to detect Gaze-Deviation for stroke detection. (sample)

CreditAI Lab, TrustingSocial

2019 - 2020

Research Engineer

Australia

- Develop face matching and face recognition algorithm for credit scoring system.

Temasek Lab, Singapore University of Technology and Design (SUTD)

2017 - 2019

Research Assistant on Computer Vision

Singapore

- Deep model compression, esp. in Recurrent Neural Network (RNN) and Long-Short Term Memory (LSTM), to reducing memory and computational cost, to apply on mobile hardware such as FPGA.
- Improving Generative Adversarial Networks (GANs), esp. in mode collapse problem.
- Implemented module to detect and track Undefined Flying Objects, esp. Drone in Sky Surveillance - Flying Object Detection (SSFOD) project.
- Improved image retrieval module to handle big dataset (appr. 200k images) in Urban-area Scene Based Localization (USBL) project.

Viettel R&D Institute, Viettel Group

2012 - 2017

Digital Signal Processing Engineer

Vietnam

- Developed baseband processing algorithms: Channel equalization using adaptive filter, Adaptive Noise Cancellation, Digital Pre-Distortion to improve the linearity of radio amplifiers.

SELECTED PUBLICATIONS - GOOGLE SCHOLAR

- A. Bui**, T. Le, H. Zhao, Q. Tran, D. Phung, “*Generating Adversarial Examples with Task Oriented Multi-Objective Optimization*”. Under submission.
- A. Bui**, T. Le, Q. Tran, H. Zhao, D. Phung, “*A Unified Wasserstein Distributional Robustness Framework for Adversarial Training*”. Accepted to ICLR 2022. [paper, code]
- A. Bui**, T. Le, H. Zhao, P. Montague, S. Camtepe, D. Phung, “*Understanding and Achieving Efficient Robustness with Adversarial Supervised Contrastive Learning*”. Preprint. [paper, code]
- T. Le*, **A. Bui***, Tue. Le, H. Zhao, Q. Tran, P. Montague, D. Phung, “*On Global-view Based Defense via Adversarial Attack and Defense Risk Guaranteed Bounds*”. Accepted to AISTATS 2022.
- A. Bui**, T. Le, H. Zhao, P. Montague, O. de Vel, T. Abraham, D. Phung, “*Improving Ensemble Robustness by Collaboratively Promoting and Demoting Adversarial Robustness*”. Accepted to AAAI 2021. [paper, code]
- A. Bui**, T. Le, H. Zhao, P. Montague, O. de Vel, T. Abraham, D. Phung, “*Improving Adversarial Robustness by Enforcing Local and Global Compactness*”. Accepted to ECCV 2020. [paper, code]
- NT Tran*, **A. Bui***, NM Cheung, “*Improving GAN with neighbors embedding and gradient matching*”. Accepted to AAAI 2019. [paper, code]
- NT Tran, **A. Bui**, NM Cheung, “*Dist-gan: An improved gan using distance constraints*”. Accepted to ECCV 2018. [paper, code]
- NT Tran, Le Tan, D. K., Doan, A. D., Do, T. T., **A. Bui**, Tan, M., Cheung, N. M. (2018). *On-device scalable image-based localization via prioritized cascade search and fast one-many RANSAC*. IEEE Transactions on Image Processing, 28(4), 1675-1690. paper

HONOURS & AWARDS

2022	Top 10% Reviewer at AISTATS 2022.
2019	Faculty of Information Technology’s Scholarship, Monash University.
2012-2015	Creative Idea Award for Research and Management at Viettel R&D Institute.
2012	Merit for excellent graduate student, HUST.
2012	Best Thesis Award in Thesis Defence, SET, HUST.
2012	Third prize in Student Conference on Scientific Research, HUST.
2007	Second prize in National Physics Olympiad for High School Students.

REFERENCES

Professor Dinh Phung, Ph.D. (Supervisor)

Faculty of Information Technology
Monash University

Assistant Professor Trung Le, Ph.D. (Co-Supervisor)

Faculty of Information Technology
Monash University