

# 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 - 2021

*Head TA*

*Australia*

- Deep Learning units (FIT3181, FIT5215), Semester 2 (200+ students).

**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.

## PUBLICATIONS

---

**A. Bui**, T. Le, Q. Tran, H. Zhao, D. Phung, "Wasserstein Distributional Robust Optimization: A Unified and Generalized Framework for Adversarial Training". Under submission to ICLR 2022.

**A. Bui**, T. Le, H. Zhao, P. Montague, S. Camtepe, D. Phung, "Understanding and Achieving Efficient Robustness with Adversarial Supervised Contrastive Learning". Under submission to AISTATS 2022.

T. Le\*, **A. Bui\***, T. Le, H. Zhao, Q. Tran, P. Montague, D. Phung, "On Global-view Based Defense via Adversarial Attack and Defense Risk Guaranteed Bounds". Under submission 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". Proceedings of the AAAI Conference on Artificial Intelligence 2021.

**A. Bui**, T. Le, H. Zhao, P. Montague, O. de Vel, T. Abraham, D. Phung, "*Improving Adversarial Robustness by Enforcing Local and Global Compactness*". Proceedings of the European Conference on Computer Vision (ECCV) 2020.

NT Tran\*, **A. Bui\***, NM Cheung, "*Improving GAN with neighbors embedding and gradient matching*". Proceedings of the AAAI Conference on Artificial Intelligence 2019.

NT Tran, **A. Bui**, NM Cheung, "*Dist-gan: An improved gan using distance constraints*". Proceedings of the European Conference on Computer Vision (ECCV) 2018.

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.

## HONOURS & AWARDS

---

<b>2012-2015</b>	Creative Idea Award for Research and Management at Viettel R&D Institute.
<b>2012</b>	Merit for excellent graduate student, HUST.
<b>2012</b>	Best Thesis Award in Thesis Defence, SET, HUST.
<b>2012</b>	Third prize in Student Conference on Scientific Research, HUST.
<b>2007</b>	Second prize in National Physics Olympiad for High School Students.

## REFERENCES

---

### **Professor Dinh Phung, Ph.D. (Supervisor)**

Falcuty of Information Technology  
Monash University

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

Falcuty of Information Technology  
Monash University

### **Associate Professor Ngai-Man Cheung, Ph.D. (Ex-Supervisor)**

Department of Information Systems Technology and Design  
Singapore University of Technology and Design