Thanh Nguyen-Tang

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Deakin University
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Education

- **Deakin University, Geelong, Australia** 2019 – 2021 (Expected)
  Ph.D. candidate in Machine Learning and Statistics
  Thesis: On Practical Reinforcement Learning: Provable Robustness, Scalability and Statistical Efficiency
- **Ulsan National Institute of Science and Technology (UNIST), South Korea** 2016 – 2018
  M.S. in Computer Science & Engineering (GPA: 4.3/4.0, Top-1 graduate)
  Thesis: Parametric Information Bottleneck to Optimize Stochastic Neural Networks
- **Da Nang University of Science and Technology, Vietnam** 2010 – 2015
  B.Eng. in Electronic and Communication Engineering (advanced program, valedictorian)

Experience

- **Associate Research Fellow** Jul. 2021 – Present
  The Applied Artificial Intelligence Institute, Deakin University, Australia
- **Ph.D. Student Researcher** Jan. 2019 – Present
  The Applied Artificial Intelligence Institute, Deakin University, Australia
- **Researcher** Mar. 2018 – Dec. 2018
  Statistical Artificial Intelligent Lab (SAIL), School of Computer Science & Engineering, Ulsan National Institute of Science and Technology (South Korea)
- **Research & Teaching Assistant** Mar. 2016 – Mar. 2018
  Statistical Artificial Intelligent Lab (SAIL), School of Computer Science & Engineering, Ulsan National Institute of Science and Technology (South Korea)

Research Interests

Machine Learning, Reinforcement Learning, Statistics, Deep Learning, Robust Generalization.

Publications

- **T. Nguyen-Tang**, S. Gupta, H. Tran-The, and S. Venkatesh. Sample Complexity of Offline Reinforcement Learning with Deep ReLU Networks. **ICML Workshop on Reinforcement Learning Theory**, 2021.
- **T. Nguyen-Tang**, S. Gupta, and S. Venkatesh. Distributional Reinforcement Learning via Moment Matching. Proceedings of the 35th AAAI Conference on Artificial Intelligence (**AAAI**), Vancouver, Canada, Feb. 2-9, 2021.
- **T. Nguyen-Tang**, S. Gupta, H. Ha, S. Rana, and S. Venkatesh. Distributionally Robust Bayesian Quadrature Optimization. Proceedings of the 23rd International Conference on Artificial Intelligence and Statistics (**AISTATS**), Palermo, Italy, 2020.

- **T. Nguyen-Tang**, and J. Choi. Markov Information Bottleneck to Improve Information Flow in Stochastic Neural Networks. **Entropy**, 21(10), 976, 2019.
- H. Ha, S. Rana, S. Gupta, **T. Nguyen-Tang**, H. Tran-The, and S. Venkatesh. Bayesian Optimization with Unknown Search Space. Proceedings of the Advances in Neural Information Processing Systems (**NeurIPS**) 32, Vancouver, BC, Canada, 8–14 December, 2019.
- **T. Nguyen-Tang**, and J. Choi. Parametric Information Bottleneck to Optimize Stochastic Neural Networks. Proceedings of the International Symposium on Perception, Action and Cognitive Systems (**PACS**), p. 23-30, Seoul, Korea, 2017. (Best Poster Award)

Preprints

- **T. Nguyen-Tang**, S. Gupta, A.Tuan Nguyen, and S. Venkatesh. Offline Neural Contextual Bandits: Pessimism, Optimization and Generalization. Under review, 2021.
- H. Tran-The, S. Gupta, **T. Nguyen-Tang**, S. Rana, and S. Venkatesh. Combining Online Learning and Offline Learning for Contextual Bandits with Deficient Support. Under review, 2021.

Poster Presentation/Talks

- Jul. 25, 2021: Sample Complexity of Offline Reinforcement Learning with Deep ReLU Networks at ICML Workshop on Reinforcement Learning Theory.
- Jul. 7 – 15, 2021: Sample Complexity of Offline Reinforcement Learning with Deep ReLU Networks at EEML 2021, Budapest, Hungary.
- Apr. 25, 2021: On Finite-Sample Analysis of Batch Reinforcement Learning with Deep ReLU Networks at Viet.Operator.Theorists, Troy University, U.S.
- Feb. 5, 2021: Distributional Reinforcement Learning via Moment Matching at AAAI 2021, Vancouver Canada.
- Aug. 26 – 28, 2020: Distributionally Robust Bayesian Quadrature Optimization at AISTATS 2020, Palermo, Italy.
- Jun. 28 – Jul. 10, 2020: Moment Matching Reinforcement Learning at MLSS 2020, Max Planck Institute for Intelligent Systems, Tübingen, Germany.
- Nov. 2 – 7, 2017: Parametric Information Bottleneck to Optimize Stochastic Neural Networks at PACS 2017, Seoul National University, Seoul, Korea (Best Poster Award).

Selected Awards

- Outstanding reviewer award for ICLR 2021.
- Best Poster Award at the International Symposium on Perception, Action and Cognitive Systems, 2017.

Service

- **Invited Reviewer/Program Committee**: NeurIPS 2021 Workshop on Offline Reinforcement Learning, ICML (2021), NeurIPS (2020, 2021), ICLR (2021 - outstanding reviewer, 2022), AAAI (2021, 2022), AISTATS (2021).

Meetups

- The Deep Learning Theory Summer School at Princeton (acceptance rate: 180/500 = 36%).
- Eastern European Machine Learning Summer School (EEML) at Budapest Hungary, 2021 (accepted with a poster presentation).
- Machine Learning Summer School (MLSS) 2020 at the Max Planck Institute for Intelligent Systems, Tübingen, Germany (acceptance rate: 13.84%).

Skills

- **Programming**: Python, Tensorflow, JAX, Pytorch, MATLAB, C++.
- **Languages**: Vietnamese (native), English (working proficient).

(Updated: October 4, 2021)