

Hoang NT

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Profile

My interest is developing mathematical foundations to understand large scale machine learning methods for graph-structured data such as social networks and recommender systems.

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Work Experience

- Jan 2020 – **Researcher**, *RIKEN Center for Advanced Intelligence Project*, Tokyo, Japan.
Oct 2021 Research on kernel analysis with a focus on tangent kernels.
- Jan 2019 – **Researcher**, *RIKEN Center for Advanced Intelligence Project*, Tokyo, Japan.
Oct 2020 Research on graph embedding theory from graph signal processing and graph homomorphism perspectives.
- Oct 2018 – **Research Assistant**, *School of Computing, Tokyo Tech*, Tokyo, Japan.
May 2021 Research on graph neural networks with applications to weakly supervised learning.
- 2016 – 2017 **Research Assistant**, *School of Computing, Tokyo Tech*, Tokyo, Japan.
Research on the neural network compression technology for the CREST-Deep project funded by JST.

Education

- 2015 – 2017 **Tokyo Institute of Technology**, *School of Computing*.
M.Eng. Degree, Computer Science, IGP-A Program.
GPA: 3.0 / 3.0 (Japanese system) – Ranked 1st.
- 2009 – 2014 **Hanoi University of Science and Technology**, *School of Telecommunication*.
B.Eng. Degree, Computer Engineering.
GPA: 3.21 / 4.00 (major: 3.56 / 4.00) – Top 5%.

Publications (refereed)

- Conference
- **AAAI 2022** *Leaping Through Time with Gradient-based Adaptation for Recommendation*, Nuttapong Chairatanakul, Hoang NT, Xin Liu, and Tsuyoshi Murata, 36th AAAI Conference on Artificial Intelligence (AAAI), Vancouver, Canada 2022.
CoRR abs/xxxx.yyyyy, Dec 2021
 - **NeurIPS 2021** *Learning on Random Balls is Sufficient for Estimating (Some) Graph Parameters*, Takanori Maehara and Hoang NT, 35th Conference on Neural Information Processing Systems (NeurIPS), Online 2021.
CoRR abs/2111.03317, Nov 2021
 - **ICML 2020** *Graph Homomorphism Convolution*, Hoang NT and Takanori Maehara, 37th International Conference on Machine Learning (ICML), Online 2020.
CoRR abs/2005.01214, June 2020
 - **ICPR 2020** *Revisiting Graph Neural Networks: Graph Filtering Perspective*, Hoang NT, Takanori Maehara, and Tsuyoshi Murata, 25th International Conference on Pattern Recognition, Online 2021.
- Workshop
- **ICLR-LLD 2019** *Learning Graph Neural Networks with Noisy Labels*, Hoang NT, Choong Jun Jin, and Tsuyoshi Murata, ICLR 2019 Limited Labeled Data Workshop.
CoRR abs/1905.01591
 - **IJCAI-ReLiG 2017** *Motif-Aware Graph Embedding*, Hoang NT and Tsuyoshi Murata, IJCAI 2017 ReLiG Workshop.

- Preprint • *Adaptive Stacked Graph Filter*, Hoang NT, Takanori Maehara, and Tsuyoshi Murata.
CoRR abs/2011.10988, Nov 2020
- *A Simple Proof of the Universality of Invariant/Equivariant Graph Neural Networks*, Takanori Maehara and Hoang NT.
CoRR abs/1910.03802, Oct 2019
- *Revisiting Graph Neural Networks: All We Have is Low-Pass Filters*, Hoang NT and Takanori Maehara.
CoRR abs/1905.09550, May 2019

Awards and Scholarships

2015 – 2017 **Japanese Government (MEXT) Scholarships.**
University Recommendation, IGP-A Program for Advanced Technology Leaders.

Programming Languages and Frameworks

Scripting **Python**
Framework **PyG, PyTorch, Scikit-Learn, TensorFlow**
Programming **C++**

Other Activities

- Jul 2021 **NeurIPS Meetup 2021** Online.
Organizer for NeurIPS Japan Meetup. Website: <https://neuripsmeetup.jp/2021/>
- Dec 2020 **NeurIPS Meetup 2020** Online.
Organizer for NeurIPS Japan Meetup. Website: <https://neuripsmeetup.jp/2020/>
- Jul 2020 **ICML 2020** Online.
Virtual volunteer for the conference.
- Sep 2019 **TU Berlin & RIKEN AIP Joint Workshop** at TU Berlin.
Poster presentation: Frequency analysis for GNN
- Aug 2019 **CREST-Deep Workshop** at LECTURE Hayama.
Presentation title: Learning Graph Neural Networks with Noisy Labels
- Jun 2019 **PLMW@PLDI'19** at Phoenix, Arizona, USA.
Programming Languages Mentoring Workshop at PLDI'19 (travel grant by ACM)

Languages

English **Fluent**
Japanese **Basic**