

# Hoang NT

## Profile

*I am a machine learning engineer at SmartNews, Inc. I am interested in developing large scale machine learning methods for graph-structured data such as social networks and recommender systems. .*

## 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)
- 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)

## Industry Experience

- Nov 2021 – **ML Engineer, SmartNews, Inc.,** Tokyo, Japan.  
Present News Ranking Engineer.

## Research Experience

- Jan 2020 – **Researcher, RIKEN Center for Advanced Intelligence Project,** Tokyo, Japan.  
Sep 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.

## Publications (refereed)

- Conference
- **NeurIPS 2021** *Learning on Random Balls is Sufficient for Estimating (Some) Graph Parameters*, Takanori Maehara and Hoang NT, 35<sup>th</sup> 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, 37<sup>th</sup> 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, 25<sup>th</sup> 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

- 2018 – 2021 **Japanese Government (MEXT) Scholarships.**  
University Recommendation, Top Global University Project (MEXT-SGU). Awarded 4 times: 2018-2019, 2019-2020, 2020-2021, and 2021-2022.
- 2015 – 2017 **Japanese Government (MEXT) Scholarships.**  
University Recommendation, IGP-A Program for Advanced Technology Leaders.

## Programming Languages and Frameworks

Scripting	<b>Python, Julia</b>	<i>main research tool and 3 industry projects</i>
Framework	<b>PyTorch, Scikit-Learn, TensorFlow, JuMP</b>	<i>main research tool</i>
Programming	<b>C++</b>	<i>1 industry project</i>

## 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.  
Joined the Programming Languages Mentoring Workshop at PLDI'19

## Languages

English	<b>Fluent</b>
Japanese	<b>Basic</b>