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Hoang NT

Education

2018 – 2021 (expected) **Tokyo Institute of Technology**, *School of Computing*.
Ph.D. Candidate, Artificial Intelligence.

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)

Work Experience

May 2018 – Oct 2018 **Data Scientist**, *Rakuten Inc.*, Tokyo, Japan.
Analyzed customer satisfactory data (30mil+ customers and 300mil+ products) and built a machine learning model based on gradient boosting and graph embedding to predict the net promoter score from customers' purchasing and viewing history. Joined in a fintech project analyzing credit card data using NLP techniques (LSTM with custom tf-idf features).

Jan 2018 – May 2018 **Machine Learning Engineer**, *Websosanh.vn*, Hanoi, Vietnam.
Designed and implemented machine learning products (custom word embedding and Bi-LSTM) for e-commerce applications.

Oct 2014 – May 2015 **Software Engineer**, *Donuts Co, Ltd. Hanoi*, Hanoi, Vietnam.
Worked on implementation and maintenance of a mobile game in the Japanese market named "Tansha no Tora" (using C++ on Cocos2D-x framework).

Research Experience

Jan 2020 – Sep 2021 **Part-time Researcher**, *RIKEN Center for Advanced Intelligence Project*, Tokyo, Japan.
Research on kernel analysis with a focus on tangent kernels.

Jan 2019 – Oct 2020 **Part-time Researcher**, *RIKEN Center for Advanced Intelligence Project*, Tokyo, Japan.
Research on graph embedding theory from graph signal processing and graph homomorphism perspectives.

Oct 2018 – Present **Research Assistant**, *School of Computing, Tokyo Tech*, Tokyo, Japan.
Research on graph neural networks with applications to weakly supervised learning. This research is a part of the large CREST-Deep project funded by the Japan Science and Technology Agency.

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 the Japan Science and Technology Agency.

Publications

Conference
- ICML 2020 *Graph Homomorphism Convolution*, Hoang NT and Takanori Maehara, 37th International Conference on Machine Learning, 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.

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

Workshop *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

Motif-Aware Graph Embedding, Hoang NT and Tsuyoshi Murata, IJCAI 2017 ReLiG Workshop.

Awards and Scholarships

2018 – 2021 **Japanese Government (MEXT) Scholarships**.
University Recommendation, Top Global University Project. Awared 3 times: 2018-2019 and 2019-2020, 2020-2021.

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

Programming Languages and Frameworks

Scripting	**Python, Julia**	*main research tool and 3 industry projects*
Framework	**PyTorch, Scikit-Learn, TensorFlow, JuMP**	*main research tool*
Programming	**C++**	*1 industry project*

Other Activities

Dec 2020 **NeurIPS Meetup 2020** Online.
Organizer for NeurIPS Japan Meetup. Website: https://neuripsmeetupjapan.github.io/

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 Lectore 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

Vietnamese	**Native**
English	**Fluent**
Japanese	**Basic**