THAI BINH NGUYEN

Email: nguyenthaibinh@gmail.com
Homepage: http://binhnguyen.me

EDUCATION

Ph.D., Informatics Apr 2016 - Mar 2019
SOKENDAI (The Graduate University for Advanced Studies) Japan
Dissertation: Embedding Models for Recommender Systems on Sparse Data.

M.Sc., Computer Science Apr 2006 - Mar 2008
Japan Advanced Institute of Science and Technology Japan
Thesis: Matching Complex Documents: An Application to the CISCO Network Error Database.

B.A., Computer Science Sep 1998 - Jun 2003
Hanoi University of Science and Technology Vietnam
Thesis: Feature Extraction for the Fingerprint Recognition.
GPA: 8.54/10.

HONORS AND AWARDS

Excellent student award from the National Institute of Informatics (NII), Japan 2018

Full scholarship by Japanese government for Ph.D student 2016-2018

Full scholarship by Panasonic corporation for Master student 2006-2008

Several prizes in Mathematical Olympiads for secondary and high school students before 1998

RESEARCH EXPERIENCE

Ph.D student at the National Institute of Informatics, Japan. Apr 2016 - Mar 2019
Advisor: Prof. Atsuhiro Takasu
- My work focused on developing machine learning methods with the application to recommender systems for large-scale and sparse data. The models I developed are a combination of Bayesian models and deep learning. The deep learning models are to model the complex interactions in data while the Bayesian models are to connect and handle the uncertainty of the outcome (e.g., ratings, clicks).

Research Intern at Deakin University, Australia. Aug 2018 - Sep 2018
Advisor: Prof. Truyen Tran
- Developed a library for maximum a posteriori (MAP) optimization for the problem of scene graphs generation from images.

Research Student at the National Institute of Informatics, Japan. Apr 2015 - Mar 2016
Advisor: Prof. Atsuhiro Takasu
- Developed a Bayesian-based model on location-based data for venue recommendations.

Master student at Japan Advanced Institute of Science and Technology, Japan. Apr 2006 - Mar 2008
Advisor: Prof. Ho Tu Bao
- Developed algorithms for multi-class classification of short texts.

PRESENTATION AND TALK

- Representation Learning for Recommendations in E-Commerce. At *VinAI*, Hanoi, Vietnam, August 2019.
- Learning Representations from Product Titles for Modeling Shopping Transactions (**Poster**). At *RecNLP 2019 Workshop*, Honolulu, Hawaii, United States, January 2019.
- NPE: Neural Personalized Embedding for Collaborative Filtering (**Oral+Poster**). At *IJCAI-ECAI-2018*, Stockhom, Sweden, July 2018.
- A Probabilistic Model for the Cold-Start Problem in Rating Prediction using Click Data (**Oral**). At *ICONIP 2017*, GuangZhou, China, November 2017.
- A Hierarchical Bayesian Factorization Model for Implicit and Explicit Feedback Data (**Oral**). At *ADMA 2017*, Singapore, November 2017.
- Collaborative Item Embedding Model for Implicit Feedback Data (**Oral**). At *ICWE-2017*, Rome, Italy, June 2017.

PUBLICATIONS

1. **ThaiBinh Nguyen**, Atsuhiro Takasu (2019). Learning Representations from Product Titles for Modeling Shopping Transactions. In *AAAI-19 Workshop on Recommender Systems and Natural Language Processing (RecNLP)*, Honolulu, Hawaii, United States.
2. **ThaiBinh Nguyen**, Atsuhiro Takasu (2018). NPE: Neural Personalized Embedding for Collaborative Filtering. In *Proceedings of the 27th International Joint Conference on Artificial Intelligence and the 23rd European Conference on Artificial Intelligence (IJCAI-ECAI 2018)*, Stockholm, Sweden.
3. **ThaiBinh Nguyen**, Atsuhiro Takasu (2017). A Probabilistic Model for the Cold-Start Problem in Rating Prediction using Click Data. In *Proceedings of The 24th International Conference on Neural Information Processing (ICONIP)*, Guangzhou, China.
4. **ThaiBinh Nguyen**, Atsuhiro Takasu (2017). A Hierarchical Bayesian Factorization Model for Implicit and Explicit Feedback Data. In *Proceedings of The 13th International Conference on Advanced Data Mining and Applications (ADMA)*, Singapore.
5. **ThaiBinh Nguyen**, Kenro Aihara, Atsuhiro Takasu (2017). Collaborative Item Embedding Model for Implicit Feedback Data. In *Proceedings of The 17th International Conference on Web Engineering (ICWE)*, Rome, Italy.
6. **Binh Nguyen**, Kenro Aihara, Atsuhiro Takasu (2015). City recommender system based on a latent topic model. In *IEICE Technical Report*, vol. 115, no. 381, AI2015-42, pp. 95-99, Okinawa, Japan.
7. **Nguyen, T.B**., Ho, T.B., Pham, C., Kawasaki, S. (2007). Matching Complex Documents Using Tolerance Rough Set Model. In *Proceedings of The 8th International Symposium on Knowledge and Systems Sciences (KSS07)*, pp.156-162, Ishikawa, Japan.

WORK EXPERIENCE

Data Scientist/AI Engineer at Rakuten Inc., Japan Apr 2019 - present

I am responsible for building machine learning models for the intelligent logistics project.
- Implement clustering algorithms on GPS data for detecting drivers' actions (e.g., driving, walking, idling).
- Build machine learning models at large-scale for predicting parcel arrival time (ETA prediction).
- Develop interactive visualization tools for GPS/map data.
- Do offline data analysis to find insights to support the business side to make decisions.

Machine Learning Engineer at Supership Inc., Japan 2015 - 2016
- Implemented the multi-arms bandit algorithm for optimizing online advertisement.
- Implemented a model that predicts user genders based on website access log.
- Implemented data visualization tools for the data mining team's internal management.

Lecturer at Hanoi University of Science and Technology, Vietnam June 2008 - Mar 2015
- Taught Data Structures and Algorithms (classes of 40-50 students).
- Taught Mathematical Foundation for Informatics (classes of 40-50 students).

TECHNICAL SKILLS

- Proficient programmer in Python/Java/C++.
- 3+ years experience in machine learning/deep learning research.
- Practical experience with Pytorch, Tensorflow, and Scikit-learn.
- Practical experience with big data tools: Spark, Hadoop, Hive.

PROFESSIONAL ACTIVITIES

Conference reviewer: ICDM 2019, IJCAI 2019, RecSys 2019, PAKDD 2018.