

TRUNG TRINH

Email: trung.trinh@aalto.fi

Website: <https://trungtr.com>

EDUCATION

Ph.D. in Artificial Intelligence and Machine Learning

Probabilistic Machine Learning group, Aalto University, Finland

Started October 2021

Expected completion date: October 2025

Supervisor: Prof. Samuel Kaski

Advisor: Markus Heinonen, Ph.D.

M.Sc. (Tech) in Machine Learning, Data Science and Artificial Intelligence

Aalto University, Finland

September 2019 – June 2021

GPA: 4.93/5.0

Graduating with honors

Thesis: Scalable Bayesian neural networks

Thesis supervisor: Prof. Samuel Kaski

Thesis advisor: Markus Heinonen, Ph.D.

B.Eng. in Computer Science

HCMC University of Technology, VNU-HCM, Vietnam

September 2014 – June 2018

GPA: 9.09/10

Graduating with honors

Second place among overall graduates

Thesis: Development of an intelligent chatbot using machine learning approaches

Thesis advisor: Tho Quan, Ph.D.

PUBLICATIONS

Trung Trinh, Markus Heinonen, Luigi Acerbi and Samuel Kaski. *Input-gradient space particle inference for neural network ensembles*. ICLR 2024 ([Spotlight, top 5%](#)). Project website: <https://aaltopml.github.io/FoRDE/>.

Trung Trinh, Markus Heinonen, Luigi Acerbi and Samuel Kaski. *Tackling covariate shift with node-based Bayesian neural networks*. ICML 2022 ([Oral, top 2%](#)). Project website: <https://aaltopml.github.io/node-BNN-covariate-shift/>.

PREPRINTS

Trung Trinh, Markus Heinonen, Luigi Acerbi and Samuel Kaski. *Improving robustness to corruptions with multiplicative weight perturbations*. <https://arxiv.org/abs/2406.16540>. 2024

Trung Trinh, Samuel Kaski, and Markus Heinonen. *Scalable Bayesian neural networks by layer-wise input augmentation*. <https://arxiv.org/abs/2010.13498>. 2020

TECHNICAL SKILLS

Languages: Python, Javascript, Java, C/C++

Libraries: Jax/Flax, Pytorch, Tensorflow, Numpy, Scipy, Scikit-learn, Pandas, Matplotlib, Seaborn.

WORK EXPERIENCE

Teaching Assistant

Aalto University, Finland

Spring 2021, 2022 and 2023

Course: CS-E4890 - Deep Learning

Teaching Assistant

Aalto University, Finland

Autumn 2019

Course: CS-E4600 - Algorithmic Methods of Data Mining

R&D Engineer

YouNet Media, Vietnam

January 2018 to July 2019

Analyzing text data on social media for marketing purposes.

- Develop machine learning models to detect spams (unrelated posts and comments) on social media.
- Develop a language model in Vietnamese to train classifiers on limited text data.
- Categorize social media influencers based on their posts using latent Dirichlet allocation.

RESEARCH EXPERIENCE

Research Assistant

Department of Computer Science, Aalto University, Finland

June 2020 to August 2020

I worked at the Probabilistic Machine Learning group for my summer internship. My work focused on developing efficient approaches to Bayesian neural networks.

Supervising professor: Samuel Kaski

Advisor: Markus Heinonen, Ph.D.

Research Assistant

Department of Computer Science, Aalto University, Finland

As a student in the Doctoral Track programme, I completed research projects at three different research groups:

- Project 1 (Sep 2019 – Jan 2020): Using Gaussian processes to provide better estimates for the thermodynamic variational objective, which is a tighter bound than the evidence lower bound (ELBO) for training deep generative models. Supervisor: Prof. Harri Lähdesmäki.
- Project 2 (Feb 2020 – May 2020): Applying Monte Carlo Tree Search and neural networks to Pommerman, a multi-agent game with sparse rewards and partially observable states. Supervisor: Prof. Alexander Ilin.
- Project 3 (Sep 2020 – Dec 2020): Developing efficient approaches to Bayesian neural networks. Supervisor: Prof. Samuel Kaski.

ACADEMIC SERVICE

Reviewer for NeurIPS 2024.