# Hoan Duc NGUYEN


CONTACT INFORMATION

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RESEARCH INTERESTS

Domain Adaptation, Machine Learning, Learning Theory, Inverse Problems

EMPLOYMENT

- Postdoctoral at RICAM, Austrian Academy of Sciences, Austria 2024 - present
- Ph.D. candidate at RICAM, Austrian Academy of Sciences, Austria 2020 - 2023
- Reseacher in Artificial Intelligence Laboratory, Thang Long University 2019 - 2020
- Lecturer in Department of Mathematics and Informatics, Thang Long University 2018 - 2020

EDUCATION

- Ph.D. at Johannes Kepler University, Linz, Austria Sep 2020 - Nov 2023
  - Supervisors: Prof. Sergei Pereverzyev, Prof. Bernhard A. Moser, and Dr. Werner Zellinger
  - Thesis: Regularization in Reproducing Kernel Hilbert Spaces for Covariate Shift Domain Adaptation
- Master ACSYON at University of Limoges, Limoges, France 2016 - 2017
  Master ACSYON: Algorithmics, Symbolic Computation and Numerical Optimization
  - Advisors: Prof. Jean-Guy Caputo and Prof. Arnaud Knippel.
  - Master Thesis: Inverse source problem in a forced wave graph.
- Bachelor of Mathematics in Hanoi University of Science, Vietnam 2010 - 2014
  - Senior Advisor: Professor Ho Dang Phuc
  - Senior Thesis: Statistical Methods in Quality Control.

PUBLICATIONS

- M.-C. Dinu, M. Holzleitner, M. Beck, **D. H. Nguyen**, A. Huber, H. Eghbal-zadeh, B. Moser, S. V. Pereverzyev, S. Hochreiter, and W. Zellinger. *Addressing parameter choice issues in unsupervised domain adaptation by aggregation*. In: International Conference on Learning Representations (ICLR), selected as **notable-top-5% paper**, 2023.
- E. R. Gizewski, L. Mayer, B. A. Moser, **D. H. Nguyen**, S. Pereverzyev Jr, S. V. Pereverzyev, N. Shepeleva, and W. Zellinger. *On a regularization of unsupervised domain adaptation in RKHS*. Applied and Computational Harmonic Analysis, 57:201–227, 2022.
- W. Zellinger, N. Shepeleva, M. Dinu, H. Eghbal zadeh, **D. H. Nguyen**, B. Nessler, S. Pereverzyev, and B. A. Moser. *The balancing principle for parameter choice in distance-regularized domain adaptation*. Advances in Neural Information Processing Systems, 2021.

PREPRINTS

- **D. H. Nguyen**, W. Zellinger, and S. Pereverzyev. *On regularized Radon-Nikodym differentiation*. Submitted, 2023. Available at https://arxiv.org/abs/2308.07887
- **D. H. Nguyen**, S. Pereverzyev, and W. Zellinger. *General regularization in covariate shift adaptation*. Submitted, 2023. Available at https://arxiv.org/abs/2307.11503

## RESEARCH EXPERIENCES

- Reviewer for NeurIPS 2023, ICML 2024 conferences
- Work on the skin fungal diseases detection project 2019 - 2020
  Torus Company, Toulouse, France and Artificial Intelligence Lab, Thang Long University
  - Collecting images of fungal diseases, processing data, and constructing classification models
- Work on the Hanoi Formal Abstract project 2018 - 2020
  University of Pittsburgh, Carnegie Mellon University, and Thang Long University
  - Formalizing theorems of "top 100" of mathematical theorems in Lean
- Internship in Hanoi Institute of Mathematics, Vietnam Oct, 2017 - Dec, 2018
  - Advisor: Prof. Dinh Nho Hao.
  - Subject: Inverse source problem.
- Internship in INSA, Rouen, France Mar - Aug, 2017
  - Advisor: Prof. Jean-Guy Caputo and Prof. Arnaud Knippel.
  - Subject: Inverse source problem in a forced wave graph.

## TEACHING EXPERIENCES

- Exercise session: Mathematics for AI, Summer and Winter semesters in 2022, 2023.
- Exercise session: Discrete Mathematics , Spring and Fall semesters in 2019.

## AWARDS AND FELLOWSHIPS

- Master scholarship, LabEX Sigma Lim, University of Limoges, France. 2016 - 2017
- Annual Scholarship for excellent students, Vietnam National University. 2012 - 2014

## COMPUTER SKILLS

- Software: MATLAB, PyTorch, TensorFlow.
- Programming: C/C++, Python, Lean.

## REFERENCES


⋆ Prof. Dr. Sergei Pereverzyev
Johann Radon Institute for Computational and Applied Mathematics
Austrian Academy of Sciences
Email: sergei.pereverzyev@oeaw.ac.at

⋆ Priv.-Doz. Dr. Bernhard Moser
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