Trang H. Tran

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(Updated February 10, 2023)

FIELDS OF INTEREST

Optimization, Machine Learning/Deep Learning and Time Series

EDUCATION

2020 – Present **School of Operations Research and Information Engineering, Cornell University**
Doctor of Philosophy, Major: Operations Research
PhD advisor: Prof. Katya Scheinberg
PhD co-advisor: Dr. Lam M. Nguyen

2015 – 2019 **Hanoi National University of Education**
Honor Class, Faculty of Mathematics
Degree of Bachelor, Classification: Excellent

RESEARCH EXPERIENCE

05/2023 – 08/2023 **AI Research Intern (upcoming)**
IBM Research, Thomas J. Watson Research Center, Yorktown Heights, NY

05/2022 – 08/2022 **AI Research Intern**
IBM Research, Thomas J. Watson Research Center, Yorktown Heights, NY
Supervisor: Dr. Lam M. Nguyen

PUBLICATIONS

2022 **Nesterov Accelerated Shuffling Gradient Method for Convex Optimization.**
Trang H. Tran, Katya Scheinberg, Lam M. Nguyen.
International Conference on Machine Learning (**ICML 2022**) (21.9% acceptance rate)

2021 **SMG: A Shuffling Gradient-Based Method with Momentum**
Trang H. Tran, Lam M. Nguyen, Quoc Tran-Dinh.
International Conference on Machine Learning (**ICML 2021**) (21.47% acceptance rate)

TECHNICAL REPORTS

2022 **An End-to-End Time Series Model for Simultaneous Imputation and Forecast**
Trang H. Tran, Lam M. Nguyen, Kyongmin Yeo, Nam Nguyen, Dzung Phan, Roman Vaculin, Jayant Kalagnanam. *(Under Review at ICASSP)*

2022 **On the Convergence to a Global Solution of Shuffling-Type Gradient Algorithms**
Lam M. Nguyen*, **Trang H. Tran***. *(Under Review at JMLR)*

2022 **New Perspective on the Global Convergence of Finite-Sum Optimization**
Lam M. Nguyen*, **Trang H. Tran***, Marten van Dijk. *(Under Review at JMLR)*

2022 **Finding Optimal Policy for Queueing Models: New Parameterization**
Trang H. Tran, Lam M. Nguyen, Katya Scheinberg.

PROFESSIONAL ACTIVITIES

02 – 2023 **Workshop Organizer**
When Machine Learning meets Dynamical Systems: Theory and Applications.
Lam M. Nguyen, **Trang H. Tran**, Wang Zhang, Subhro Das and Tsui-Wei Weng.
Workshop at the 37th Conference on Artificial Intelligence (AAAI 2023) (upcoming)

2020 – Present **Program Committee – Reviewer (peer-reviewed conferences)**
International Conference on Machine Learning (ICML 2020 - 2023)
Conference on Neural Information Processing Systems (NeurIPS 2021 - 2022)
International Conference on Learning Representations (ICLR 2021 - 2023)
Conference on Artificial Intelligence (AAAI 2022)
International Conference on Artificial Intelligence and Statistics (AISTATS 2021 - 2023)
Conference on Uncertainty in Artificial Intelligence (UAI 2022 - 2023)
Conference on Computer Vision and Pattern Recognition (CVPR 2023)

2021 – Present **Reviewer (peer-reviewed journal)**
Journal of Machine Learning Research (2022 – Present)
Journal of Optimization Theory and Applications (2022 – Present)
Machine Learning (2021 – Present)
Neural Networks (2022 – Present)
IEEE Transactions on Signal Processing (2021 – Present)
IEEE Transactions on Neural Networks and Learning Systems (2022 – Present)

2022 – Present **Member**
Editorial Board, Machine Learning Journal

2021 – Present **Session Chair / Organizer**
INFORMS Annual Meeting 2022 – "Optimization for Machine Learning"
INFORMS Annual Meeting 2021 – "Recent Advances in Stochastic Gradient Algorithms"

2021 **Program Committee – Reviewer (workshops)**
Optimization for Machine Learning: Beyond Worst-case Complexity (OPT 2021 – NeurIPS 2021 Workshop)
New Frontiers in Federated Learning: Privacy, Fairness, Robustness, Personalization and Data Ownership (NFFL 2021 – NeurIPS 2021 Workshop)

PATENTS APPLICATIONS

[1] **Time Series Forecasting Using Multivariate Time Series Data With Missing Values.**
Filed on February 1st, 2023.
Lam M. Nguyen, **Trang H. Tran**, Kyongmin Yeo, Nam Nguyen, Dzung Phan, Roman Vaculin, Jayant Kalagnanam.

[2] **Training A Neural Network Using an Accelerated Gradient with Shuffling.**
Filed on July 14th, 2022.
Lam M. Nguyen, **Trang H. Tran.**

HONORS & AWARDS

2022 **Top Reviewer**
Conference on Uncertainty in Artificial Intelligence (UAI 2022)

2021 **Outstanding Reviewer**
International Conference on Learning Representations (ICLR 2021)
Reviewer Award (Top 10%)

2020 **ORIE Field Fellowship**
Eleanor and Howard Morgan PhD'68 Graduate Fellowship, Fall 2020

2019 **Young Talent Scholarship Programme 2019**
From the Vingroup Innovation Foundation (VINIF) for outstanding students who are pursuing the domestic postgraduate study programmes

2016 – 2018 **Students Scholarship in National Program**
for the Development of Mathematics until 2020

2016 **First Prize on Algebra**
In Vietnam Mathematics Competition for University Students (nationwide award)

TALKS

01/2023 Shuffling Gradient Methods for Finite-sum Optimization.
Institute of Mathematics, Vietnam Academy of Science and Technology, Hanoi, Vietnam

10/2022 Nesterov Accelerated Shuffling Gradient Method.
INFORMS Annual Meeting 2022, Indianapolis, IN

07/2022 Nesterov Accelerated Shuffling Gradient Method for Convex Optimization.
International Conference on Machine Learning (ICML 2022), Baltimore, MD

10/2021 Shuffling Gradient-Based Methods
INFORMS Annual Meeting 2021, Anaheim, CA

07/2021 SMG: A Shuffling Gradient-Based Method with Momentum
International Conference on Machine Learning (ICML 2021), virtual conference

OTHER EXPERIENCES

Teaching Assistant - Cornell University

Fall 2022 MATH 2940 Linear Algebra for Engineeers
Spring 2021 ORIE 3510 Introduction to Engineering Stochastic Processes
Holding discussion sections, grading and other duties.

Mentorship

06/2022 – 05/2023 Angelos Assos
Undergraduate student, Computer Science and Mathematics, Massachusetts Institute of Technology. (co-advise with Dr. Lam Nguyen and Prof. Luca Daniel)

SKILLS

Technical Python, MATLAB, PyTorch, TensorFlow, Keras, Gurobi.
Language Vietnamese (native), English (proficient)

REFERENCES

Katya Scheinberg, Ph.D.
Professor, School of Operations Research and Information Engineering, Cornell University
✉ katyas@cornell.edu 225 Frank H.T. Rhodes Hall, Ithaca, NY 14850, USA

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Marten van Dijk, Ph.D.
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Quoc Tran-Dinh, Ph.D.
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