

Lam M. Nguyen

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EDUCATION

2014 – 2018	Ph.D. , Department of Industrial and Systems Engineering, <i>Lehigh University</i> , Bethlehem, PA Thesis advisors: <i>Katya Scheinberg, Martin Takac, and Alexander L. Stolyar</i> Thesis title: A Service System with On-Demand Agents, Stochastic Gradient Algorithms and the SARAH Algorithm Elizabeth V. Stout Dissertation Award Research areas: Optimization for Large Scale Problems, Machine Learning, Deep Learning, Stochastic Models, Optimal Control
2011 – 2013	M.B.A. , College of Business, <i>McNeese State University</i> , Lake Charles, LA Beta Gamma Sigma (Academic Honor)
2004 – 2008	B.S. , Applied Mathematics and Computer Science, Faculty of Computational Mathematics and Cybernetics, <i>Lomonosov Moscow State University</i> , Moscow, Russia Thesis advisor: <i>Vladimir I. Dmitriev</i> Thesis title: Methods for Detecting Hidden Period in Some Economics Processes

RESEARCH EXPERIENCE

06/2022 – Present	Staff Research Scientist , <i>IBM Research, Thomas J. Watson Research Center</i> , Yorktown Heights, NY Research areas: Optimization, Machine Learning, Reinforcement Learning, Time Series
04/2021 – 06/2022	Research Staff Member , <i>IBM Research, Thomas J. Watson Research Center</i> , Yorktown Heights, NY Research areas: Optimization, Machine Learning, Reinforcement Learning
09/2020 – 12/2025	Principal Investigator , <i>MIT-IBM Watson AI Lab</i> , Cambridge, MA Research areas: Dynamical Systems, Time Series, Reinforcement Learning, Adversarial Robustness
10/2018 – 03/2021	Research Scientist , <i>IBM Research, Thomas J. Watson Research Center</i> , Yorktown Heights, NY Research areas: Optimization, Machine Learning, Deep Learning, Reinforcement Learning, AI Solutions, Explainable AI
05/2018 – 08/2018	Research Intern , <i>IBM Research, Thomas J. Watson Research Center</i> , Yorktown Heights, NY Research areas: Optimization, Machine Learning, Deep Learning, Reinforcement Learning
08/2017 – 05/2018	Research Co-op , <i>IBM Research, Thomas J. Watson Research Center</i> , Yorktown Heights, NY Research areas: Optimization, Machine Learning, Deep Learning
06/2017 – 08/2017	Research Intern , <i>IBM Research, Thomas J. Watson Research Center</i> , Yorktown Heights, NY Research areas: Optimization, Machine Learning, Deep Learning
09/2014 – 05/2017	Research Assistant , <i>Lehigh University</i> , Bethlehem, PA Research areas: Optimization for Large Scale Problems, Machine Learning, Deep Learning, Stochastic Models, Optimal Control
01/2012 – 12/2013	Graduate (Research) Assistant , <i>McNeese State University</i> , Lake Charles, LA Research areas: Operations Management and Finance

EDITORSHIP / PROGRAM COMMITTEE / ORGANIZING COMMITTEE

CONFERENCE ORGANIZING COMMITTEE

2026 **Lead Journal Chair**, The 40th Conference on Neural Information Processing Systems (NeurIPS 2026)

2025 **Journal Chair**, The 39th Conference on Neural Information Processing Systems (NeurIPS 2025)

2024 **Journal Chair**, The 38th Conference on Neural Information Processing Systems (NeurIPS 2024)

2023 **Journal Chair**, The 37th Conference on Neural Information Processing Systems (NeurIPS 2023)

EDITORSHIP (PEER-REVIEWED JOURNALS)

06/2022 – Present **Action Editor**, Journal of Machine Learning Research

06/2021 – Present **Action Editor**, Machine Learning

06/2022 – Present **Associate Editor**, Journal of Optimization Theory and Applications

01/2022 – 12/2023 **Associate Editor**, IEEE Transactions on Neural Networks and Learning Systems

01/2022 – 12/2022 **Action Editor**, Neural Networks

SENIOR AREA CHAIR / SENIOR META-REVIEWER (PEER-REVIEWED CONFERENCES)

2024 - 2025 **Senior Area Chair**, Conference on Neural Information Processing Systems (NeurIPS)

2026 **Senior Area Chair**, International Conference on Machine Learning (ICML)

2026 **Senior Area Chair**, International Conference on Learning Representations (ICLR)

2025 - 2026 **Senior Area Chair**, International Conference on Artificial Intelligence and Statistics (AISTATS)

AREA CHAIR / META-REVIEWER / SENIOR PROGRAM COMMITTEE (PEER-REVIEWED CONFERENCES)

2020 – 2025 **Area Chair**, International Conference on Machine Learning (ICML)

2022 – 2023 **Area Chair**, Conference on Neural Information Processing Systems (NeurIPS)

2021 – 2025 **Area Chair**, International Conference on Learning Representations (ICLR)

2021 – 2024 **Area Chair**, International Conference on Artificial Intelligence and Statistics (AISTATS)

2022 – 2024 **Area Chair**, Conference on Uncertainty in Artificial Intelligence (UAI)

2023 – 2025 **Area Chair**, Conference on Computer Vision and Pattern Recognition (CVPR)

2022 **Senior Program Committee**, AAAI Conference on Artificial Intelligence (AAAI)

WORKSHOP ORGANIZING COMMITTEE

2026 **Program Chair**, Principled Design for Trustworthy AI - Interpretability, Robustness, and Safety across Modalities, ICLR 2026 Workshop

2023 **General Chair & Program Chair**, When Machine Learning meets Dynamical Systems: Theory and Applications, AAAI 2023 Workshop

2021 **General Chair & Program Chair**, New Frontiers in Federated Learning: Privacy, Fairness, Robustness, Personalization and Data Ownership (NFFL 2021), NeurIPS 2021 Workshop

REVIEWER (PROPOSALS)

2022 **Reviewer & Panelist**, Grant proposals, National Science Foundation (NSF)

2022, 2024 **Evaluation Member**, Grant proposals, AI Singapore (AISG) Research Programme

2021 **Reviewer**, Workshop proposals, NeurIPS 2021 Workshops

GRANT EXPERIENCE

01/2026 – 12/2026	Principal Investigator , “ <i>Time Series Data Agent: an Agentic System with Foundation Models for Multimodal Data</i> ”, NAIRR Deep Partnership program “IBM & the AI Alliance - Collaboration on Open Source Cloud Platform, Models and Tools”, \$110K IBM PI: Lam M. Nguyen , IBM Co-PI: Chandra Reddy RPI PI: Agung Julius RPI Students: Yunshi Wen, Nicolas Lizarralde
01/2025 – 12/2025	Principal Investigator , “ <i>Interpretable Foundation Models for General-Purpose Time Series Analysis</i> ”, RPI - IBM Future of Computing Research Collaboration, \$150K IBM PI: Lam M. Nguyen RPI PI: Agung Julius RPI Students: Yunshi Wen, Nicolas Lizarralde
01/2023 – 12/2025	Principal Investigator , “ <i>Safe Learning for Time Series Problems: Data, Structure and Optimization</i> ”, MIT-IBM Watson AI Lab Foundational Project, \$750K + \$150K IBM PI: Lam M. Nguyen , IBM Co-PI: Subhro Das MIT PI: Luca Daniel, MIT Co-PI: Alexandre Megretski MIT Students: Wang Zhang, Ziwen (Martin) Ma (Harvard)
01/2022 – 12/2022	Principal Investigator , “ <i>Safe AI Certification</i> ”, MIT-IBM Watson AI Lab Project, \$150K IBM PI: Lam M. Nguyen , IBM Co-PI: Subhro Das MIT PI: Alexandre Megretski, MIT Co-PI: Luca Daniel MIT Student: Wang Zhang
01/2021 – 12/2021	Principal Investigator , “ <i>Safety Structures, Certification, and Training for AI in the Feedback Loop</i> ”, MIT-IBM Watson AI Lab Exploratory Project, \$150K . IBM PI: Lam M. Nguyen , IBM Co-PI: Subhro Das, Tsui-Wei Weng MIT PI: Alexandre Megretski, MIT Co-PI: Luca Daniel MIT Student: Wang Zhang
09/2020 – 09/2021	Co-Principal Investigator , “ <i>Hierarchical Disentangled Representations for Scalable Multi-agent Reinforcement Learning</i> ”, MIT-IBM Watson AI Lab Exploratory Project, \$100K . IBM PI: Tsui-Wei Weng, IBM Co-PI: Lam M. Nguyen MIT PI: Cathy Wu MIT Student: Vindula Jayawardana

BOOK

- [1] Federated Learning: Theory and Practice.
Lam M. Nguyen, Trong Nghia Hoang, Pin-Yu Chen
Elsevier publisher, ISBN 9780443190377, 2024

JOURNAL & PEER-REVIEWED CONFERENCE PAPERS

- [54] Stochastic ISTA/FISTA Adaptive Step Search Algorithms for Convex Composite Optimization.
Lam M. Nguyen, Katya Scheinberg, Trang H. Tran
Journal of Optimization Theory and Applications (JOTA), 2025
- [53] Correlated Attention in Transformers for Multivariate Time Series.
Quang M. Nguyen, **Lam M. Nguyen**, Subhro Das
The 2025 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2025), 2025
- [52] Dilated Convolution for Time Series Learning.
Wang Zhang, Subhro Das, **Lam M. Nguyen**, Luca Daniel.
The 2025 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2025), 2025

- [51] Foundation Model and Temporal Prios-guided Transductive Few-shot Action Recognition.
Bach Vu, Hoang Nguyen, Quang M. Nguyen, Duong Le, Hieu Pham, Phi Le Nguyen, **Lam M. Nguyen**.
The 2025 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2025), 2025
- [50] TabularFM: An Open Framework For Tabular Foundational Models.
Quan M. Tran, Suong N. Hoang, **Lam M. Nguyen**, Dzung Phan, Hoang Thanh Lam
2024 IEEE International Conference on Big Data (IEEE BigData 2024), 2024 (19.7% acceptance rate)
- [49] Abstracted Shapes as Tokens - A Generalizable and Interpretable Model for Time-series Classification.
Yunshi Wen, Tengfei Ma, Tsui-Wei Weng, **Lam M. Nguyen**, Anak Agung Julius
The 38th Conference on Neural Information Processing Systems (NeurIPS 2024), 2024 (25.8% acceptance rate)
- [48] Shuffling Gradient-Based Methods for Nonconvex-Concave Minimax Optimization.
Quoc Tran-Dinh, Trang H. Tran, **Lam M. Nguyen**
The 38th Conference on Neural Information Processing Systems (NeurIPS 2024), 2024 (25.8% acceptance rate)
- [47] Probabilistic Federated Prompt-Tuning in Data Imbalance Settings.
Pei-Yau Weng, Minh Hoang, **Lam M. Nguyen**, My T. Thai, Tsui-Wei Weng, Trong Nghia Hoang
The 38th Conference on Neural Information Processing Systems (NeurIPS 2024), 2024 (25.8% acceptance rate)
- [46] Improving Time Series Encoding with Noise-Aware Self-Supervised Learning and an Efficient Encoder.
Anh Duy Nguyen, Trang H. Tran, Hieu H. Pham, Phi Le Nguyen, **Lam M. Nguyen**
The 24th IEEE International Conference on Data Mining (ICDM 2024), 2024 (19.5% acceptance rate)
- [45] Proactive DP: A Multiple Target Optimization Framework for DP-SGD.
Marten van Dijk, Nhuong Van Nguyen, Toan N. Nguyen, **Lam M. Nguyen**, Phuong Ha Nguyen
The 41th International Conference on Machine Learning (ICML 2024), 2024 (27.5% acceptance rate)
- [44] Shuffling Momentum Gradient Algorithm for Convex Optimization.
Trang H. Tran, Quoc Tran-Dinh, **Lam M. Nguyen**
Vietnam Journal of Mathematics (VJOM), Special issue dedicated to Dr. Tamás Terlaky on the occasion of his 70th birthday, 2024
- [43] Multi-polytope Machine for Classification.
Dzung Phan, **Lam M. Nguyen**, Jayant Kalagnanam, Chandra Reddy
SIAM Conference on Data Mining (SDM 2024), 2024 (29.2% acceptance rate)
- [42] On Partial Optimal Transport: Revising the Infeasibility of Sinkhorn and Efficient Gradient Methods.
Anh Duc Nguyen, Tuan Dung Nguyen, Quang Nguyen, Hoang Nguyen, **Lam M. Nguyen**, Kim-Chuan Toh
The 38th AAAI Conference on Artificial Intelligence (AAAI 2024), 2024 (23.75% acceptance rate)
INFORMS 2024 Undergraduate Operations Research Prize
- [41] One Step Closer to Unbiased Aleatoric Uncertainty Estimation.
Wang Zhang, Martin Ma, Subhro Das, Lily Weng, Alexandre Megretsky, Luca Daniel, **Lam M. Nguyen**
The 38th AAAI Conference on Artificial Intelligence (AAAI 2024), 2024 (23.75% acceptance rate)

- [40] On Unbalanced Optimal Transport: Gradient Methods, Sparsity and Approximation Error.
 Quang Minh Nguyen, Hoang H. Nguyen, Yi Zhou, **Lam M. Nguyen**
Journal of Machine Learning Research (JMLR), 2023
- [39] On the Convergence to a Global Solution of Shuffling-Type Gradient Algorithms.
Lam M. Nguyen, Trang H. Tran
The 37th Conference on Neural Information Processing Systems (NeurIPS 2023), 2023 (26.1% acceptance rate)
- [38] Analyzing Generalization of Neural Networks through Loss Path Kernels.
 Yilan Chen, Wei Huang, Hao Wang, Charlotte Loh, Akash Srivastava, **Lam M. Nguyen**, Tsui-Wei Weng
The 37th Conference on Neural Information Processing Systems (NeurIPS 2023), 2023 (26.1% acceptance rate)
- [37] Attacking c-MARL More Effectively: A Data Driven Approach.
 Nhan Pham, **Lam M. Nguyen**, Jie Chen, Hoang Thanh Lam, Subhro Das, and Tsui-Wei Weng
The 23rd IEEE International Conference on Data Mining (ICDM 2023), 2023 (19.94% acceptance rate)
- [36] Promoting Robustness of Randomized Smoothing: Two Cost-Effective Approaches.
 Linbo Liu, Trong Nghia Hoang, **Lam M. Nguyen**, and Tsui-Wei Weng
The 23rd IEEE International Conference on Data Mining (ICDM 2023), 2023 (19.94% acceptance rate)
- [35] ConCerNet: A Contrastive Learning Based Framework for Automated Conservation Law Discovery and Trustworthy Dynamical System Prediction.
 Wang Zhang, Tsui-Wei Weng, Subhro Das, Alexandre Megretski, Luca Daniel, **Lam M. Nguyen**
The 40th International Conference on Machine Learning (ICML 2023), 2023 (27.9% acceptance rate)
- [34] Scalable and Secure Federated XGBoost.
 Quang Nguyen, Nhan Khanh Le, **Lam M. Nguyen**.
The 2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2023), 2023
- [33] Label-free Concept Bottleneck Models.
 Tuomas Oikarinen, Subhro Das, **Lam M. Nguyen**, Tsui-Wei Weng.
The 11th International Conference on Learning Representations (ICLR 2023), 2023
- [32] Optimal Control via Linearizable Deep Learning.
 Vinicius Lima, Dzung T. Phan, **Lam M. Nguyen**, Jayant R. Kalagnanam
The 2023 American Control Conference (ACC 2023), 2023
- [31] Nesterov Accelerated Shuffling Gradient Method for Convex Optimization.
 Trang H. Tran, Katya Scheinberg, **Lam M. Nguyen**
The 39th International Conference on Machine Learning (ICML 2022), 2022 (21.9% acceptance rate)
- [30] Finite-Sum Smooth Optimization with SARAH.
Lam M. Nguyen, Marten van Dijk, Dzung T. Phan, Phuong Ha Nguyen, Tsui-Wei Weng, Jayant R. Kalagnanam
Computational Optimization and Applications (COAP), 2022
- [29] AI-based Real-time Site-wide Optimization for Process Manufacturing.
 Jayant Kalagnanam, Dzung Phan, Pavankumar Murali, **Lam M. Nguyen**, Nianjun Zhou, Dharmashankar Subramanian, Raju Pavuluri, Xiang Ma, Crystal Lui, Giovane Cesar da Silva
INFORMS Journal on Applied Analytics (IJAA), 2022

- [28] StepDIRECT - A Derivative-Free Optimization Method for Stepwise Functions.
Dzung Phan, Hongsheng Liu, **Lam M. Nguyen**
SIAM International Conference on Data Mining (SDM22), 2022 (27.8% acceptance rate)
- [27] Besting the Black-Box: Barrier Zones for Adversarial Example Defense.
Kaleel Mahmood, Phuong Ha Nguyen, **Lam M. Nguyen**, Thanh Nguyen, Marten van Dijk
IEEE Access, 2022
- [26] Interpretable Clustering via Multi-Polytope Machines.
Connor Lawless, Jayant Kalagnanam, **Lam M. Nguyen**, Dzung Phan, Chandra Reddy
The 36th AAAI Conference on Artificial Intelligence (AAAI 2022), 2022 (15% acceptance rate)
- [25] FedDR - Randomized Douglas-Rachford Splitting Algorithms for Nonconvex Federated Composite Optimization.
Quoc Tran-Dinh, Nhan Pham, Dzung T. Phan, **Lam M. Nguyen**
The 35th Conference on Neural Information Processing Systems (NeurIPS 2021), 2021 (26% acceptance rate)
- [24] Ensembling Graph Predictions for AMR Parsing.
Thanh Lam Hoang, Gabriele Picco, Yufang Hou, Young-Suk Lee, **Lam M. Nguyen**, Dzung T. Phan, Vanessa López, Ramon Fernandez Astudillo
The 35th Conference on Neural Information Processing Systems (NeurIPS 2021), 2021 (26% acceptance rate)
- [23] On the Equivalence between Neural Network and Support Vector Machine.
Yilan Chen, Wei Huang, **Lam M. Nguyen**, Tsui-Wei Weng
The 35th Conference on Neural Information Processing Systems (NeurIPS 2021), 2021 (26% acceptance rate)
- [22] A Unified Convergence Analysis for Shuffling-Type Gradient Methods.
Lam M. Nguyen, Quoc Tran-Dinh, Dzung T. Phan, Phuong Ha Nguyen, Marten van Dijk
Journal of Machine Learning Research (JMLR), volume 22, 1-43, 2021
- [21] SMG: A Shuffling Gradient-Based Method with Momentum.
Trang H. Tran, **Lam M. Nguyen**, Quoc Tran-Dinh
The 38th International Conference on Machine Learning (ICML 2021), PMLR 139, 2021 (21.47% acceptance rate)
- [20] Regression Optimization for System-level Production Control.
Dzung T. Phan, **Lam M. Nguyen**, Pavankumar Murali, Nhan H. Pham, Hongsheng Liu, Jayant R. Kalagnanam
The 2021 American Control Conference (ACC 2021), 2021
- [19] Hogwild! over Distributed Local Data Sets with Linearly Increasing Mini-Batch Sizes.
Nhuong V. Nguyen, Toan N. Nguyen, Phuong Ha Nguyen, Quoc Tran-Dinh, **Lam M. Nguyen**, Marten van Dijk
The 24th International Conference on Artificial Intelligence and Statistics (AISTATS 2021), 2021 (29.8% acceptance rate)
- [18] A Hybrid Stochastic Optimization Framework for Stochastic Composite Nonconvex Optimization.
Quoc Tran-Dinh, Nhan H. Pham, Dzung T. Phan, **Lam M. Nguyen**
Mathematical Programming (MAPR), 2021
IBM 2022 Pat Goldberg Memorial Best Paper Award
- [17] Hybrid Variance-Reduced SGD Algorithms for Nonconvex-Concave Minimax Problems.
Quoc Tran-Dinh, Deyi Liu, **Lam M. Nguyen**
The 34th Conference on Neural Information Processing Systems (NeurIPS 2020), 2020 (20.1% acceptance rate)

- [16] A Scalable MIP-based Method for Learning Optimal Multivariate Decision Trees.
 Haoran Zhu, Pavankumar Murali, Dzung T. Phan, **Lam M. Nguyen**, Jayant R. Kalagnanam
The 34th Conference on Neural Information Processing Systems (NeurIPS 2020), 2020
 (20.1% acceptance rate)
- [15] Inexact SARAH Algorithm for Stochastic Optimization.
Lam M. Nguyen, Katya Scheinberg, Martin Takac
Optimization Methods and Software (GOMS), volume 36(1), 237-258, 2020
- [14] Pruning Deep Neural Networks with L0-constrained Optimization.
 Dzung T. Phan, **Lam M. Nguyen**, Nam H. Nguyen, Jayant R. Kalagnanam
The 20th IEEE International Conference on Data Mining (ICDM 2020), 2020 (19.7% acceptance rate)
- [13] Stochastic Gauss-Newton Algorithms for Nonconvex Compositional Optimization.
 Quoc Tran-Dinh, Nhan H. Pham, **Lam M. Nguyen**
The 37th International Conference on Machine Learning (ICML 2020), PMLR 119, 2020 (21.8% acceptance rate)
- [12] ProxSARAH: An Efficient Algorithmic Framework for Stochastic Composite Nonconvex Optimization.
 Nhan H. Pham, **Lam M. Nguyen**, Dzung T. Phan, Quoc Tran-Dinh
Journal of Machine Learning Research (JMLR), volume 21(110), 1-48, 2020
IBM 2020 Pat Goldberg Memorial Best Paper Competition - Finalist
- [11] A Hybrid Stochastic Policy Gradient Algorithm for Reinforcement Learning.
 Nhan H. Pham, **Lam M. Nguyen**, Dzung T. Phan, Phuong Ha Nguyen, Marten van Dijk, Quoc Tran-Dinh
The 23rd International Conference on Artificial Intelligence and Statistics (AISTATS 2020), PMLR 108, 2020
- [10] New Convergence Aspects of Stochastic Gradient Algorithms.
Lam M. Nguyen, Phuong Ha Nguyen, Peter Richtarik, Katya Scheinberg, Martin Takac, Marten van Dijk
Journal of Machine Learning Research (JMLR), volume 20(176), 1-49, 2019
- [9] Tight Dimension Independent Lower Bound on the Expected Convergence Rate for Diminishing Step Sizes in SGD.
 Phuong Ha Nguyen, **Lam M. Nguyen**, Marten van Dijk
The 33th Conference on Neural Information Processing Systems (NeurIPS 2019), 2019 (21.17% acceptance rate)
- [8] PROVEN: Verifying Robustness of Neural Networks with a Probabilistic Approach.
 Tsui-Wei Weng, Pin-Yu Chen, **Lam M. Nguyen**, Mark S. Squillante, Akhilan Boopathys, Ivan Oseledets, Luca Daniel
The 36th International Conference on Machine Learning (ICML 2019), PMLR 97, 2019 (22.5% acceptance rate)
- [7] Characterization of Convex Objective Functions and Optimal Expected Convergence Rates for SGD.
 Marten van Dijk, **Lam M. Nguyen**, Phuong Ha Nguyen, Dzung T. Phan
The 36th International Conference on Machine Learning (ICML 2019), PMLR 97, 2019 (22.5% acceptance rate)
- [6] ChieF: A Change Pattern based Interpretable Failure Analyzer.
 Dhaval Patel, **Lam M. Nguyen**, Akshay Rangamani, Shrey Shrivastava, Jayant Kalagnanam
2018 IEEE International Conference on Big Data (IEEE BigData 2018), 2018
- [5] SGD and Hogwild! Convergence Without the Bounded Gradients Assumption.
Lam M. Nguyen, Phuong Ha Nguyen, Marten van Dijk, Peter Richtarik, Katya Scheinberg, Martin Takac
The 35th International Conference on Machine Learning (ICML 2018), PMLR 80, 2018 (25% acceptance rate)
IBM Research AI – Selected Publications 2018

- [4] SARAH: A Novel Method for Machine Learning Problems Using Stochastic Recursive Gradient.
Lam M. Nguyen, Jie Liu, Katya Scheinberg, Martin Takac
The 34th International Conference on Machine Learning (ICML 2017), PMLR 70:2613-2621, 2017 (25% acceptance rate)
Van Hoesen Family Best Publication Award
- [3] A Queueing System with On-demand Servers: Local Stability of Fluid Limits.
Lam M. Nguyen, Alexander L. Stolyar
Queueing Systems (QUESTA), 1-26, Springer, 2017
- [2] A Service System with Randomly Behaving On-demand Agents.
Lam M. Nguyen, Alexander L. Stolyar
The 42nd International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS 2016), ACM SIGMETRICS Performance Evaluation Review, 44(1):365-366, 2016 (25% acceptance rate)
- [1] CEO Compensation: Does Financial Crisis Matter?
Prasad Vemala, **Lam Nguyen**, Dung Nguyen, Alekhya Kommasani
International Business Research, 7(4):125-131, 2014

PEER-REVIEWED WORKSHOP PAPERS

- [8] Guaranteeing Conservation Laws with Projection in Physics-Informed Neural Networks.
Anthony Baez, Wang Zhang, Ziwen Ma, Subhro Das, **Lam M. Nguyen**, Luca Daniel
The 38th Conference on Neural Information Processing Systems (NeurIPS 2024), Data-driven and Differentiable Simulations, Surrogates, and Solvers (D3S3), 2024
- [7] Stochastic FISTA Step Search Algorithm for Convex Optimization.
Trang H. Tran, **Lam M. Nguyen**, Katya Scheinberg
The 37th Conference on Neural Information Processing Systems (NeurIPS 2023), Optimization for Machine Learning (OPT 2023), 2023
- [6] c-MBA: Adversarial Attack for Cooperative MARL Using Learned Dynamics Model.
Nhan H. Pham, **Lam M. Nguyen**, Jie Chen, Hoang Thanh Lam, Subhro Das, Tsui-Wei Weng
The 36th Conference on Neural Information Processing Systems (NeurIPS 2022), ML Safety, 2022
- [5] Fast Convergence for Unstable Reinforcement Learning Problems by Logarithmic Mapping.
Wang Zhang, **Lam M. Nguyen**, Subhro Das, Alexandre Megretski, Luca Daniel, Tsui-Wei Weng
The 39th International Conference on Machine Learning (ICML 2022), Decision Awareness in Reinforcement Learning, 2022
- [4] Robust Randomized Smoothing via Two Cost-Effective Approaches.
Linbo Liu, Trong Nghia Hoang, **Lam M. Nguyen**, Tsui-Wei Weng
The 10th International Conference on Learning Representations (ICLR 2022), PAIR2Struct: Privacy, Accountability, Interpretability, Robustness, Reasoning on Structured Data, 2022
- [3] Addressing Solution Quality in Data Generated Optimization Models.
Orit Davidovich, Parikshit Ram, Segev Wasserkrug, Dharmashankar Subramanian, Nianjun Zhou, Dzung Phan, Pavankumar Murali, **Lam M. Nguyen**
The 36th AAAI Conference on Artificial Intelligence (AAAI 2022), AI for Decision Optimization, AI4DO, 2022
- [2] Automated Decision Optimization: Data and Knowledge Driven Optimization Model Generation with Human-in-the-loop.
Lisa Amini, Arunima Chaudhary, Yishai Feldman, Pavankumar Murali, **Lam M. Nguyen**, Dzung Phan, Aviad Sela, Carolina Spina, Dharmashankar Subramanian, Abel Valente, Long Vu, Dakuo Wang, Segev Wasserkrug, Ritesh Yadav, Nianjun Zhou
The 36th AAAI Conference on Artificial Intelligence (AAAI 2022), AI for Decision Optimization, AI4DO, 2022

- [1] Ensuring the Quality of Optimization Solutions in Data Generated Optimization Models.
 Segev Wasserkrug, Orit Davidovith, Evgeny Shindin, Dharmashankar Subramanian,
 Parikshit Ram, Pavankumar Murali, Dzung Phan, Nianjun Zhou, **Lam M. Nguyen**
*The 30th International Joint Conference on Artificial Intelligence (IJCAI 2021), Data
 Science Meets Optimisation, DSO@IJCAI2021, 2021*

PREPRINTS

- [17] Revisiting the Generic Transformer: Deconstructing a Strong Baseline for Time Series Foundation Models.
 Yunshi Wen, Wesley M. Gifford, Chandra Reddy, **Lam M. Nguyen**, Jayant Kalagnanam,
 Anak Agung Julius
Technical report, arXiv preprint, 2026
- [16] Graph Concept Bottleneck Models.
 Haotian Xu, Tsui-Wei Weng, **Lam M. Nguyen**, Tengfei Ma
Technical report, arXiv preprint, 2025
- [15] Adjusted Shuffling SARAH: Advancing Complexity Analysis via Dynamic Gradient Weighting.
 Duc Toan Nguyen, Trang H. Tran, **Lam M. Nguyen**
Technical report, arXiv preprint, 2025
- [14] A Supervised Contrastive Learning Pretrain-Finetune Approach for Time Series.
 Trang H. Tran, **Lam M. Nguyen**, Kyongmin Yeo, Nam Nguyen, Roman Vaculin
Technical report, arXiv preprint, 2023
- [13] Batch Clipping and Adaptive Layerwise Clipping for Differential Private Stochastic Gradient Descent.
 Toan N. Nguyen, Phuong Ha Nguyen, **Lam M. Nguyen**, Marten van Dijk
Technical report, arXiv preprint, 2023
- [12] 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
Technical report, arXiv preprint, 2023
- [11] Generalizing DP-SGD with Shuffling and Batching Clipping.
 Marten van Dijk, Phuong Ha Nguyen, Toan N. Nguyen, **Lam M. Nguyen**
Technical report, arXiv preprint, 2022
- [10] Finding Optimal Policy for Queueing Models: New Parameterization.
 Trang H. Tran, **Lam M. Nguyen**, Katya Scheinberg
Technical report, arXiv preprint, 2022
- [9] Finite-Sum Optimization: A New Perspective for Convergence to a Global Solution.
Lam M. Nguyen, Trang H. Tran, Marten van Dijk
Technical report, arXiv preprint, 2022
- [8] Differential Private Hogwild! over Distributed Local Data Sets.
 Marten van Dijk, Nhuong V. Nguyen, Toan N. Nguyen, **Lam M. Nguyen**, Phuong Ha Nguyen
Technical report, arXiv preprint, 2021
- [7] An Optimal Hybrid Variance-Reduced Algorithm for Stochastic Composite Nonconvex Optimization.
 Deyi Liu, **Lam M. Nguyen**, Quoc Tran-Dinh
Technical report, arXiv preprint, 2020
- [6] Asynchronous Federated Learning with Reduced Number of Rounds and with Differential Privacy from Less Aggregated Gaussian Noise.
 Marten van Dijk, Nhuong V. Nguyen, Toan N. Nguyen, **Lam M. Nguyen**, Quoc Tran-Dinh, Phuong Ha Nguyen
Technical report, arXiv preprint, 2020

- [5] Finite-Time Analysis of Stochastic Gradient Descent under Markov Randomness.
Thinh T. Doan, **Lam M. Nguyen**, Nhan H. Pham, Justin Romberg
Technical report, arXiv preprint, 2020
- [4] Convergence Rates of Accelerated Markov Gradient Descent with Applications in Reinforcement Learning.
Thinh T. Doan, **Lam M. Nguyen**, Nhan H. Pham, Justin Romberg
Technical report, arXiv preprint, 2020
- [3] Hybrid Stochastic Gradient Descent Algorithms for Stochastic Nonconvex Optimization.
Quoc Tran-Dinh, Nhan H. Pham, Dzung T. Phan, **Lam M. Nguyen**
Technical report, arXiv preprint, 2019
- [2] When Does Stochastic Gradient Algorithm Work Well?
Lam M. Nguyen, Nam H. Nguyen, Dzung T. Phan, Jayant R. Kalagnanam, Katya Scheinberg
Technical report, arXiv preprint, 2018
- [1] Stochastic Recursive Gradient Algorithm for Nonconvex Optimization.
Lam M. Nguyen, Jie Liu, Katya Scheinberg, Martin Takac
Technical report, arXiv preprint, 2017

GRANTED PATENTS

- [17] Site-Wide Optimization for Mixed Regression Models and Mixed Control Variables.
Patent US12518174B2
Dung Tien Phan, Nhan H. Pham, **Lam M. Nguyen**
- [16] Optimizer Agnostic Explanation System for Large Scale Schedules. *Patent US12443454B2*
Surya Shravan Kumar Sajja, Kanthi Sarpatwar, **Lam M. Nguyen**, Yuan Yuan Jia, Stephane Michel, Roman Vaculin
- [15] Unsupervised Learning from Public Tabular Datasets. *Patent US12436924B2*
Thanh Lam Hoang, Gabriele Picco, **Lam M. Nguyen**, Dzung Tien Phan
- [14] System-level Control using Tree-based Regression with Outlier Removal. *Patent US20220058515A1*
Dung Tien Phan, Pavankumar Murali, **Lam M. Nguyen**
- [13] Automated Generation of Optimization Model for System-Wide Plant Optimization.
Patent US20220027685A1
Dung Tien Phan, **Lam M. Nguyen**, Pavankumar Murali, Nianjun Zhou
- [12] Providing a Semantic Encoding and Language Neural Network. *Patent US12217007B2*
Thanh Lam Hoang, Dzung Phan, Gabriele Picco, **Lam M. Nguyen**, Marco Luca Sbodio, Vanessa Lopez Garcia
- [11] Blending Graph Predictions. *Patent US12242801B2*
Thanh Lam Hoang, Gabriele Picco, Yufang Hou, Young-Suk Lee, **Lam M. Nguyen**, Dzung Tien Phan, Vanessa Lopez Garcia, Ramon Fernandez Astudillo
- [10] Reasonable Language Model Learning for Text Generation from a Knowledge Graph.
Patent US12216996B2
Hoang Thanh Lam, Dzung T. Phan, Gabriele Picco, **Lam M. Nguyen**, Vanessa Lopez Garcia
- [9] Intelligent Dynamic Condition-based Infrastructure Maintenance Scheduling. *Patent US12158797B2*
Pavankumar Murali, Dzung Tien Phan, Nianjun Zhou, **Lam M. Nguyen**
- [8] Regression-Optimization Control of Production Process with Dynamic Inputs. *US Patent 12399469*
Lam M. Nguyen, Pavankumar Murali, Nianjun Zhou, Binny Winston Samuel
- [7] Compression of Deep Neural Networks. *US Patent US20200293876A1*
Dzung T. Phan, **Lam M. Nguyen**, Nam H. Nguyen, Jayant R. Kalagnanam

- [6] Federated Learning for Training Machine Learning Models. *Patent US20230196081A1*
Lam M. Nguyen, Dung Tien Phan, Jayant R. Kalagnanam
- [5] A Method for Tuning Hyper-Parameters for Classification. *Patent US20220027757A1*
Dung Tien Phan, Hongsheng Liu, **Lam M. Nguyen**
- [4] Optimal Interpretable Decision Trees Using Integer Linear Programming Techniques.
Patent US20210264290A1
Pavankumar Murali, Haoran Zhu, Dung Tien Phan, **Lam M. Nguyen**
- [3] Site-wide Operations Management Optimization for Manufacturing and Processing Control. *Patent US20220057786A1*
Dung Tien Phan, **Lam M. Nguyen**, Pavankumar Murali, and Hongsheng Liu
- [2] A Shuffling-Type Gradient Method for Training Machine Learning models with Big Data.
Patent US20220171996A1
Lam M. Nguyen, Dung Tien Phan
- [1] Prediction Optimization for System-level Production Control. *Patent US11099529B2*
Dzung T. Phan, **Lam M. Nguyen**, Pavankumar Murali, Jayant R. Kalagnanam

PATENTS APPLICATIONS

- [25] Encoder-Decoder Architecture for Zero-Shot Modeling and Analysis of Time Series Data.
Filed on February 17, 2026
Yunshi Wen, **Lam M. Nguyen**, Chandrasekhara K. Reddy, Wesley M. Gifford, Kyong Min Yeo, Kanthi Sarpatwar, Jayant R. Kalagnanam, Anak Agung Julius
- [24] Time-Series Modeling Using Function-to-Function Mapping. *Filed on February 06, 2026*
Kyong Min Yeo, Chandrasekhara K. Reddy, Wesley M. Gifford, Kanthi Sarpatwar, **Lam M. Nguyen**, Chandni Nagda
- [23] Tokenizer-Predictor Architecture Designed for Zero-Shot Modeling of Time Series Data.
Filed on January 30, 2026
Yunshi Wen, **Lam M. Nguyen**, Chandrasekhara K. Reddy, Wesley M. Gifford, Jayant R. Kalagnanam, Agung Julius
- [22] Deep Learning Architecture For Multivariate Time Series. *Filed on December 14, 2024*
Quang Minh Nguyen, **Lam M. Nguyen**, Subhro Das
- [21] Generative Schrodinger Network. *Filed on March 11, 2024*
Thanh Lam Hoang, Marcos Martínez Galindo, **Lam M. Nguyen**, Niall Robertson, Vanessa Lopez Garcia
- [20] Process Control Based on Simultaneous Machine Learning of Spatial and Temporal Relations of Time Series Data. *Filed on January 05, 2024*
Lam M. Nguyen, Trang H. Tran
- [19] Neural Network-Based Dynamical System Modeling for Contrastively Learned Conservation Laws. *Filed on July 21, 2023*
Lam M. Nguyen, Wang Zhang, Subhro Das, Alexandre Megretski, Luca Daniel
- [18] Generative Modeling and Representational Learning from Multi-Sequence Alignment and Phylogenetic Tree Data. *Filed on June 30, 2023*
Thanh Lam Hoang, Marcos Martínez Galindo, Gabriele Picco, Mykhaylo Zayats, Nhan Huu Pham, **Lam M. Nguyen**, Marco Luca Sbodio, Dzung Tien Phan, Vanessa Lopez Garcia
- [17] Time Series Forecasting Using Multivariate Time Series Data with Missing Values. *Filed on January 28, 2023*
Lam M. Nguyen, Trang H. Tran, Kyong Min Yeo, Nam H. Nguyen, Dzung Tien Phan, Roman Vaculin, Jayant R. Kalagnanam
- [16] Multivariable Time-Series Feature Extraction. *Filed on January 27, 2023*
Lam M. Nguyen, Wang Zhang, Subhro Das, Alexandre Megretski, Luca Daniel

- [15] Privacy Enhanced Machine Learning over Graph Data. *Filed on January 23, 2023*
 Ambrish Rawat, Naoise Holohan, Heiko H. Ludwig, Ehsan Degan, Nathalie Baracaldo Angel, Alan Jonathan King, Swanand Ravindra Kadhe, Yi Zhou, Keith Coleman Houck, Mark Purcell, Giulio Zizzo, Nir Drucker, Hayim Shaul, Eyal Kushnir, **Lam M. Nguyen**
- [14] Providing Trained Reinforcement Learning Systems. *Filed on December 12, 2022*
Lam M. Nguyen, Wang Zhang, Subhro Das, Alexandre Megretski, Luca Daniel
- [13] Active Learning in Model Training. *Filed on November 22, 2022*
 Dzung Tien Phan, Huozi Zhou, **Lam M. Nguyen**, Chandrasekhara K. Reddy, Jayant R. Kalagnanam
- [12] Automated Decision Optimization for Maintenance of Physical Assets. *Filed on October 31, 2022*
 Nianjun Zhou, Pavankumar Murali, Dzung T. Phan, **Lam M. Nguyen**
- [11] Adversarial Attacks for Improving Cooperative Multi-Agent Reinforcement Learning Systems. *Filed on September 23, 2022*
 Nhan Huu Pham, **Lam M. Nguyen**, Jie Chen, Thanh Lam Hoang, Subhro Das
- [10] Training Neural Networks with Convergence to a Global Minimum. *Filed on September 23, 2022*
Lam M. Nguyen
- [9] Machine Learning-based Decision Framework for Physical Systems. *Filed on September 20, 2022*
 Dzung Tien Phan, **Lam M. Nguyen**
- [8] Certification-based Robust Training by Refining Decision Boundary. *Filed on September 19, 2022*
Lam M. Nguyen, Wang Zhang, Subhro Das, Pin-Yu Chen, Alexandre Megretski, Luca Daniel
- [7] Training A Neural Network Using an Accelerated Gradient with Shuffling. *Filed on July 14, 2022*
Lam M. Nguyen, Trang H. Tran
- [6] System and Method for unsupervised Learning of Semantic Graph from textual data and language generation from Semantic graph via Reinforcement learning. *Filed on July 11, 2022*
 Thanh Lam Hoang, Dzung Tien Phan, Gabriele Picco, **Lam M. Nguyen**, Marco Luca Sbodio, Vanessa Lopez Garcia
- [5] Integrated Machine Learning Prediction and Optimization for Decision-Making. *Filed on March 30, 2022*
 Dzung T. Phan, Long Vu, **Lam M. Nguyen**, Dharmashankar Subramanian
- [4] Interpretable Clustering via Multi-Polytope Machines. *Filed on February 18, 2022*
 Dzung T. Phan, Connor Lawless, Jayant R. Kalagnanam, **Lam M. Nguyen**, Chandrasekhara K. Reddy
- [3] Optimal Control of Dynamic Systems via Linearizable Deep Learning. *Filed on February 07, 2022*
 Dung Tien Phan, Jayant R. Kalagnanam, **Lam M. Nguyen**
- [2] Boosting Classification and Regression Tree Performance with Dimension Reduction. *Filed on December 14, 2021*
 Dzung T. Phan, Michael Huang, Pavankumar Murali, **Lam M. Nguyen**
- [1] Multi-Polytope Machine for Classification. *Filed on September 30, 2021*
 Dzung T. Phan, **Lam M. Nguyen**, Jayant R. Kalagnanam, Chandrasekhara K. Reddy, Srideepika Jayaraman

THESES

2018	A Service System with On-Demand Agents, Stochastic Gradient Algorithms and the SARAH Algorithm. Lam M. Nguyen <i>PhD dissertation, Lehigh University, Bethlehem, PA</i> Elizabeth V. Stout Dissertation Award
2008	Methods for Detecting Hidden Period in Some Economics Processes. Lam M. Nguyen <i>Undergraduate thesis, Lomonosov Moscow State University, Moscow, Russia</i>

ORGANIZING WORKSHOPS

- [3] Principled Design for Trustworthy AI: Interpretability, Robustness, and Safety Across Modalities.
Tsui-Wei Weng, Trong Nghia Hoang, Tengfei Ma, Jake C. Snell, Francesco Croce, Chandan Singh, Subarna Tripathi, **Lam M. Nguyen**
*Workshop at The 14th International Conference on Learning Representations (**ICLR 2026**), 2026*
- [2] When Machine Learning meets Dynamical Systems: Theory and Applications.
Lam M. Nguyen, Trang H. Tran, Wang Zhang, Subhro Das, Tsui-Wei Weng
*Workshop at The 37th Conference on Artificial Intelligence (**AAAI 2023**), 2023*
- [1] New Frontiers in Federated Learning: Privacy, Fairness, Robustness, Personalization and Data Ownership.
Nghia Hoang, **Lam M. Nguyen**, Pin-Yu Chen, Tsui-Wei Weng, Sara Magliacane, Bryan Kian Hsiang Low, Anoop Deoras
*Workshop at The 35th Conference on Neural Information Processing Systems (**NeurIPS 2021**), 2021*

INVITED TALKS

10/2023	On the Convergence to a Global Solution of Shuffling-Type Gradient Algorithms. <i>INFORMS Annual Meeting</i> , Phoenix, AZ
10/2022	New Perspective On The Convergence To A Global Solution Of Finite-sum Optimization. <i>INFORMS Annual Meeting</i> , Indianapolis, IN
09/2022	Nesterov Accelerated Shuffling Gradient Method for Convex Optimization. <i>Johns Hopkins University</i> , Baltimore, MD
10/2021	Hogwild! Over Distributed Local Data Sets With Linearly Increasing Mini-batch Sizes. <i>INFORMS Annual Meeting</i> , Anaheim, CA
11/2020	A Unified Convergence Analysis for Shuffling-Type Gradient Methods. <i>INFORMS Annual Meeting</i> , Virtual Conference
10/2019	Finite-Sum Smooth Optimization with SARAH. <i>INFORMS Annual Meeting</i> , Seattle, WA
11/2018	Inexact SARAH for Solving Stochastic Optimization Problems. <i>INFORMS Annual Meeting</i> , Phoenix, AZ
08/2018	Inexact SARAH for Solving Stochastic Optimization Problems. <i>DIMACS/TRIPODS/MOPTA</i> , Bethlehem, PA
03/2018	When does stochastic gradient algorithm work well? <i>INFORMS Optimization Society Conference</i> , Denver, CO
10/2017	SARAH: Stochastic Recursive Gradient Algorithm. <i>INFORMS Annual Meeting</i> , Houston, TX
08/2017	SARAH Algorithm. <i>IBM Thomas J. Watson Research Center</i> , Yorktown Heights, NY
11/2016	A Queueing System with On-demand Servers: Local Stability of Fluid Limits. <i>INFORMS Annual Meeting</i> , Nashville, TN

08/2016 A Queueing System with On-demand Servers: Local Stability of Fluid Limits.
Modeling and Optimization: Theory and Applications, Bethlehem, PA

PROFESSIONAL ACTIVITIES

MEMBER

- 03/2024 – Present **Senior Member**, Institute for Operations Research and the Management Sciences (INFORMS)
- 06/2020 – Present **Editorial Board**, Journal of Machine Learning Research
- 06/2021 – Present **Editorial Board**, Machine Learning
- 06/2022 – Present **Editorial Board**, Journal of Optimization Theory and Applications
- 01/2022 – 12/2023 **Editorial Board**, IEEE Transactions on Neural Networks and Learning Systems
- 01/2022 – 12/2022 **Editorial Board**, Neural Networks
- 2023 **Program Committee**, “*When Machine Learning meets Dynamical Systems: Theory and Applications (MLmDS 2023)*”, AAAI 2023 Workshop
- 2021 **Program Committee**, “*New Frontiers in Federated Learning: Privacy, Fairness, Robustness, Personalization and Data Ownership (NFFL 2021)*”, NeurIPS 2021 Workshop
- 2020 **Program Committee**, “*Optimization for Machine Learning (OPT 2020)*”, NeurIPS 2020 Workshop
- 2018 **Program Committee**, “*Modern Trends in Nonconvex Optimization for Machine Learning*”, ICML 2018 Workshop
- REVIEWER / PROGRAM COMMITTEE (PEER-REVIEWED CONFERENCES)**
- 2017 – 2019 International Conference on Machine Learning (ICML)
- 2017 – 2021 Conference on Neural Information Processing Systems (NIPS/NeurIPS)
- 2018 – 2020 International Conference on Learning Representations (ICLR)
- 2019 – 2020 International Conference on Artificial Intelligence and Statistics (AISTATS)
- 2021 – 2022 Conference on Learning Theory (COLT)
- 2019 – 2021 AAAI Conference on Artificial Intelligence (AAAI)
- 2020 International Joint Conferences on Artificial Intelligence (IJCAI)
- 2019 – 2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)
- 2019 – 2021 IEEE International Conference on Computer Vision (ICCV)
- 2020 European Conference on Computer Vision (ECCV)
- 2019 – 2021 Conference on Uncertainty in Artificial Intelligence (UAI)
- REVIEWER (PEER-REVIEWED JOURNALS)**
- 2018 – 2022 Journal of Machine Learning Research
- 2020 – 2022 Mathematical Programming
- 2020 – 2021 SIAM Journal on Optimization
- 2021 SIAM Journal on Numerical Analysis
- 2020 – 2021 IEEE Transactions on Neural Networks and Learning Systems
- 2019 – 2020 IEEE Transactions on Signal Processing
- 2019 Artificial Intelligence
- 2018 Optimization Methods and Software
- 2020 SIAM Journal on Mathematics of Data Science
- SESSION CHAIR / ORGANIZER (CONFERENCES)**
- 2022 International Conference on Machine Learning (ICML)
- Sessions “*OPT: Non-Convex*” and “*Optimization/Reinforcement Learning*”
- 2021 - Sessions “*Optimization (Stochastic)*” and “*Optimization (Nonconvex)*”
International Conference on Learning Representations (ICLR)

2021	- Session “ <i>Oral Session 6</i> ” International Conference on Artificial Intelligence and Statistics (AISTATS)
2021	- Session “ <i>Theory and Practice of Machine Learning</i> ” INFORMS Annual Meeting
2023	- Session “ <i>First-Order Methods for Machine Learning</i> ”
2022	- Session “ <i>Optimization for Machine Learning</i> ”
2021	- Session “ <i>Recent Advances in Stochastic Gradient Algorithms</i> ”
2020	- Session “ <i>Recent Advances in Stochastic Gradient Algorithms for Machine Learning</i> ”
2019	- Session “ <i>Fast and Provable Nonconvex Optimization Algorithms in Machine Learning</i> ”
2018	- Session “ <i>Recent Advances in Optimization Methods for Machine Learning</i> ” DIMACS/TRIPODS/MOPTA
2018	- Sessions “ <i>Sparse Optimization</i> ” and “ <i>Stochastic Gradient Descent</i> ”
IBM ACTIVITIES	
01/2022 – 12/2025	Champion , International Conference on Machine Learning (ICML)
09/2024 – Present	Co-Chair , Invention Development Team (IDT)
11/2021 – Present	Member , Invention Development Team (IDT)
07/2021 – 12/2024	Champion , Professional Interest Community (PIC) - Learning
2022	Member , Research AI Pillar Accomplishment Committee
2021 - 2023	Reviewer , Pat Goldberg Memorial Best Paper Competition
2020	Reviewer , IBM Ph.D. Fellowships
SOCIETY MEMBERSHIPS	
2023 – Present	INFORMS Optimization Society
2022 – Present	Association for the Advancement of Artificial Intelligence (AAAI)
2016 – Present	Society for Industrial and Applied Mathematics (SIAM)
2014 – Present	The Institute for Operations Research and the Management Sciences (INFORMS)
2014 – Present	Beta Gamma Sigma (The International Business Honor Society)

MENTORSHIP

	PH.D. STUDENTS
03/2021 – 02/2025	Wang Zhang , Ph.D. student, Department of Mechanical Engineering, <i>Massachusetts Institute of Technology</i> (co-advise with Prof. Luca Daniel).
10/2019 – 01/2025	Trang H. Tran , Ph.D. student, School of Operations Research and Information Engineering, <i>Cornell University</i> (co-advise with Prof. Katya Scheinberg).
08/2018 – 12/2021	Nhan H. Pham , Ph.D. student, Department of Statistics and Operations Research, <i>University of North Carolina at Chapel Hill</i> (co-advise with Prof. Quoc Tran-Dinh). Now at <i>IBM Research, USA</i> .
	IBM PH.D. FELLOWSHIP STUDENTS
09/2026 – 06/2027	Hoang H. Nguyen , Ph.D. student, H. Milton Stewart School of Industrial and Systems Engineering, <i>Georgia Institute of Technology</i> .
	IBM RESEARCH INTERNS
05/2025 – 08/2025	Chandni Nagda , Ph.D. student, Department of Computer Science, <i>University of Illinois Urbana-Champaign</i> .
05/2025 – 08/2025	Yating Zhou , Ph.D. Student, Department of Electrical, Computer, and Systems Engineering, <i>Rensselaer Polytechnic Institute</i> .
05/2025 – 08/2025	Yunshi Wen , Ph.D. Student, Department of Electrical, Computer, and Systems Engineering, <i>Rensselaer Polytechnic Institute</i> .

- 06/2023 – 09/2023 **Quang M. Nguyen**, Ph.D. student, Department of Electrical Engineering and Computer Science, *Massachusetts Institute of Technology*.
- 06/2022 – 09/2022 **Tuomas Oikarinen**, Ph.D. student, Department of Computer Science and Engineering, *University of California San Diego*.
- 05/2022 – 08/2022 **Vinicio Lima Silva**, Ph.D. student, Department of Electrical and Systems Engineering, *University of Pennsylvania*.
- 05/2023 – 08/2023,
05/2022 – 08/2022 **Trang H. Tran**, Ph.D. student, School of Operations Research and Information Engineering, *Cornell University*.
- 05/2021 – 08/2021 **Connor Lawless**, Ph.D. student, School of Operations Research and Information Engineering, *Cornell University*.
- 05/2021 – 08/2021 **Huozhi Zhou**, Ph.D. student, Department of Electrical and Computer Engineering, *University of Illinois Urbana-Champaign*.
- 05/2021 – 08/2021 **Nathanael Assefa**, Ph.D. student, Department of Computer Science, *University of Illinois Urbana-Champaign*.
- 06/2020 – 09/2020 **Michael Huang**, Ph.D. student, Department of Data Science and Operations, Marshall School of Business, *University of Southern California*.
- 06/2020 – 08/2020 **Nhan H. Pham**, Ph.D. student, Department of Statistics and Operations Research, *University of North Carolina at Chapel Hill* (student of Prof. Quoc Tran-Dinh) (IBM Research Intern). Now at *IBM Research, USA*.
- 05/2019 – 12/2019 **Hongsheng Liu**, Ph.D. student, Department of Statistics and Operations Research, *University of North Carolina at Chapel Hill*. Now at *Huawei Technologies Co., Ltd., China*.
- 01/2019 – 08/2019 **Haoran Zhu**, Ph.D. student, Department of Industrial and Systems Engineering, *University of Wisconsin – Madison*. Now at *Microsoft, USA*.
- RPI-IBM PROJECT**
- 04/2025 – Present **Nicolas Lizarralde**, Ph.D. Student, Department of Electrical, Computer, and Systems Engineering, *Rensselaer Polytechnic Institute* (student of Prof. Agung Julius).
- 01/2024 – Present **Yunshi Wen**, Ph.D. Student, Department of Electrical, Computer, and Systems Engineering, *Rensselaer Polytechnic Institute* (student of Prof. Agung Julius).
- MIT-IBM PROJECTS**
- 04/2023 – 02/2025 **Martin Ma**, M.E. Student, School of Engineering and Applied Sciences, *Harvard University*.
- 03/2021 – 02/2025 **Wang Zhang**, Ph.D. student, Department of Mechanical Engineering, *Massachusetts Institute of Technology* (student of Prof. Luca Daniel).
- 09/2020 – 09/2021 **Vindula Jayawardana**, Ph.D. student, Department of Electrical Engineering and Computer Science, *Massachusetts Institute of Technology* (student of Prof. Cathy Wu).
- MIT SUPERUROP UNDERGRADUATE RESEARCH PROGRAM**
- 09/2023 – 05/2024 **Anthony Baez**, Undergraduate student, Electrical Engineering and Computer Science, *Massachusetts Institute of Technology* (co-advise with Prof. Luca Daniel).
- 06/2022 – 05/2023 **Angelos Assos**, Undergraduate student, Computer Science and Mathematics, *Massachusetts Institute of Technology* (co-advise with Prof. Luca Daniel).
- EXTERNAL STUDENTS**
- 04/2024 – Present **Duc Toan Nguyen**, Ph.D. student, Department of Electrical and Computer Engineering, *Rice University*.
- 09/2022 – 12/2024 **Anh Duy Nguyen**, Ph.D. student, Department of Electrical and Computer Engineering, *University of Illinois at Urbana-Champaign*.
- 10/2021 – 12/2022 **Linbo Liu**, Ph.D. student, Department of Mathematics, *University of California San Diego*.

06/2021 – Present	Quang M. Nguyen , Ph.D. student, Department of Electrical Engineering and Computer Science, <i>Massachusetts Institute of Technology</i> .
06/2021 – Present	Hoang H. Nguyen , Ph.D. student, H. Milton Stewart School of Industrial and Systems Engineering, <i>Georgia Institute of Technology</i> .
03/2021 – 12/2022	Yilan Chen , Ph.D. student, Department of Computer Science and Engineering, <i>University of California San Diego</i> (student of Prof. Tsui-Wei Weng).
01/2019 – 12/2022	Toan N. Nguyen , Ph.D. student, Department of Computer Science and Engineering, <i>University of Connecticut</i> (student of Prof. Marten van Dijk).
01/2019 – 11/2021	Nhuong V. Nguyen , Ph.D. student, Department of Computer Science and Engineering, <i>University of Connecticut</i> (student of Prof. Marten van Dijk).

PH.D. THESIS COMMITTEE MEMBERSHIP

10/2025 – 12/2025	Thi My Le Le , Ph.D. student, Laboratoire de Conception, Optimisation et Modélisation des Systèmes, <i>Université de Lorraine</i> (student of Prof. Le Thi Hoai An).
10/2021 – 01/2025	Trang H. Tran , Ph.D. student, School of Operations Research and Information Engineering, <i>Cornell University</i> (student of Prof. Katya Scheinberg).
09/2020 – 06/2022	Deyi Liu , Ph.D. student, Department of Statistics and Operations Research, <i>University of North Carolina at Chapel Hill</i> (student of Prof. Quoc Tran-Dinh). Now at <i>Bytedance</i> , USA.

TEACHING EXPERIENCE

08/2024 – Present	Adjunct Professor , Department of Industrial and Systems Engineering, <i>Lehigh University</i> , Bethlehem, PA Course: Optimization Methods in Machine Learning (ISE 444) (Fall 2024, Fall 2025)
09/2014 – 05/2015	Teaching Assistant , Department of Industrial and Systems Engineering, <i>Lehigh University</i> , Bethlehem, PA Courses: Engineering Probability (ISE 111), Applied Engineering Statistics (ISE 121)
01/2012 – 12/2013	Graduate (Teaching) Assistant , College of Business, <i>McNeese State University</i> , Lake Charles, LA Courses: Human Resource Management (MGMT 310), Staffing (MGMT 315), Strategic Management (MGMT 481), Management Theory and Organizational Behavior (MGMT 604), Issues in Global Business (BADM 218), Entrepreneurial Finance for Small Business (FIN 308)
09/2007 – 05/2008	Teaching Assistant , Faculty of Computational Mathematics and Cybernetics, <i>Lomonosov Moscow State University</i> , Moscow, Russia Courses: Mathematical Analysis (Calculus), Linear Algebra and Analytic Geometry

OTHER WORK EXPERIENCE

05/2013 – 08/2013	Graduate Assistant (Web Developer) , College of Business, <i>McNeese State University</i> , Lake Charles, LA
09/2008 – 08/2009	Software Engineer , <i>FPT Software Company</i> , Ho Chi Minh City, Vietnam

IBM RESEARCH ACCOMPLISHMENTS

2024	Granite Time Series Foundation Models (O-level)
2023	Research Contributions to Time Series Foundation Models (A-level)
2022	Federated Learning Security and Privacy (O-level)
2022	Dynamic Approaches for Machine Learning (A-level)
2022	Regression Optimization for Heavy Processing Industries (A-level)
2022	Combinatorial Sparsity for AI (A-level)
2021	Stochastic Gradient Methods: Theory and Applications (A-level)

2019 SROM: Smarter Resource & Operations Management (A-level)

HONORS & AWARDS

2024	INFORMS Senior Member
2023	2022 Pat Goldberg Memorial Best Paper Award
2023	IBM 9th Plateau Invention Achievement Award
2023	IBM Outstanding Technical Achievement Award, “ <i>Dynamic Approaches for Machine Learning</i> ”
2023	IBM Outstanding Technical Achievement Award, “ <i>Regression Optimization for Heavy Processing Industries</i> ”
2023	IBM Outstanding Technical Achievement Award, “ <i>Federated Learning Security and Privacy</i> ”
2023	IBM Outstanding Technical Achievement Award, “ <i>Combinatorial Sparsity for AI</i> ”
2023	IBM 8th Plateau Invention Achievement Award
2022	Winner of U.S. PETs Prize Challenge (Concept Papers)
2022	IBM Master Inventor
2022	IBM 7th Plateau Invention Achievement Award
2022	IBM 6th Plateau Invention Achievement Award
2022	IBM Outstanding Technical Achievement Award, “ <i>Stochastic Gradient Methods: Theory and Applications</i> ”
2022	IBM 5th Plateau Invention Achievement Award
2022	IBM 4th Plateau Invention Achievement Award
2021	IBM 3rd Plateau Invention Achievement Award
2020	IBM 2nd Plateau Invention Achievement Award
2020	IBM Research Division Award
2020	IBM Outstanding Technical Achievement Award, “ <i>SROM: Smarter Resource & Operations Management</i> ”
2020	IBM 1st Plateau Invention Achievement Award
2019	NeurIPS 2019 Top Reviewers
2019	Elizabeth V. Stout Dissertation Award, <i>Lehigh University</i> , Bethlehem, PA
2018	Van Hoesen Family Best Publication Award, <i>Lehigh University</i> , Bethlehem, PA
2016 – 2017	Dean’s Doctoral Fellowship (RCEAS), <i>Lehigh University</i> , Bethlehem, PA
2014 – 2015	Dean’s Doctoral Assistantship, <i>Lehigh University</i> , Bethlehem, PA
2014	Beta Gamma Sigma (Academic Honor Society)