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Lukang Sun

Research Interest

Sampling, Machine Learning, Optimization (SGD,Global Optimization)

Education

King Abdullah University of Science and Technology — Thuwal, Saudi Arabia
Ph.D. in Computer Science — 2021–Current

Nanjing University — Nanjing, China
M.S. in Pure Mathematics — 2017–2020

- Thesis: "Harmonic functions on RCD(K,N) spaces"

Jilin University — Changchun, China
B.S. in Mathematics and Applied Mathematics — 2013–2017

Experience

Technical University of Munich — Munich, German
Visited Professor Massimo Fornasier — June 19th 2023 –July 2nd 2023

Georgia Institute of Technology — Atlanta, US
Exchange student/School of Mathematics — Jan 2016 –May 2016

The Hong Kong University of Science and Technology — Hong Kong, China
Visiting student/Mathematics department — One week, Dec 2015

Teaching

- **Teaching Assistant** at Nanjing University — Fall 2016
  Advanced Mathematics
- **Teaching Assistant** at Nanjing University — Spring 2016
  Calculus

Skills

- **Coding Language:** C, Matlab and Python
- **Mathematical Analysis:** Calculus, Real Analysis, Functional Analysis and Stochastic Calculus

Scholarships and Awards

- KAUST Dean's List Award — 2023

Publications

[1] M. Fornasier, P. Richtárik, K. Riedl, and L. Sun, "Consensus-based optimization with truncated noise", *arXiv preprint arXiv:2310.16610*, 2023.

[2] L. Sun, A. Karagulyan, and P. Richtarik, "Convergence of stein variational gradient descent under a weaker smoothness condition", in ***International Conference on Artificial Intelligence and Statistics***, PMLR, 2023, pp. 3693–3717.

[3] L. Sun and P. Richtárik, "Improved Stein Variational Gradient Descent with Importance Weights", ***NeurIPS Optimal Transport and Machine Learning Workshop***, 2023.

[4] A. Tyurin, L. Sun, K. Burlachenko, and P. Richtárik, "Sharper Rates and Flexible Framework for Nonconvex SGD with Client and Data Sampling", ***accepted to Transactions on Machine Learning Research (TMLR)***, 2023.

[5] A. Salim, L. Sun, and P. Richtarik, "A Convergence Theory for SVGD in the Population Limit under Talagrand's Inequality T1", in ***International Conference on Machine Learning***, PMLR, 2022, pp. 19 139–19 152.

[6] L. Sun and P. Richtárik, "A Note on the Convergence of Mirrored Stein Variational Gradient Descent under $(L_0, L_1)-$ Smoothness Condition", *arXiv preprint arXiv:2206.09709*, 2022.

[7] L. Sun, A. Salim, and P. Richtárik, "Federated Learning with a Sampling Algorithm under Isoperimetry", *arXiv preprint arXiv:2206.00920*, 2022.