Shibo Li

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Research Interests

- Bayesian Modeling, Learning, Inference
- Black-box Optimization: Bayesian Optimization, Multi-Armed Bandits
- Multi-task/Multi-fidelity/Transfer/Meta Learning
- Representation Learning: ODE/SDE Learning
- AI for Science: Data-Driven Methods for Physical Simulations

Education

- **University of Utah** — Salt Lake City, UT
  Ph.D. in Computer Science — *Aug. 2019 – Present*
- **University of Pittsburgh** — Pittsburgh, PA
  M.S. in Mechanical Engineering — *Aug. 2012 – Apr. 2014*
- **South China University of Technology** — Guangzhou, Guangdong, China
  B.E. in Mechatronics and Robotics — *Sep. 2008 – Jun. 2012*

Experience

- **Amazon, Inc.** — Seattle, WA
  Applied Scientist Intern — *May. 2022 – Aug. 2022*
  - Research and development of in-context/ few-shots learning with large pretrained language/multi-modality models
- **Amazon, Inc.** — Seattle, WA
  Applied Scientist Intern — *May. 2021 – Aug. 2021*
  - Research and development of SOTA privacy preserved machine learning algorithms with approximate Bayesian inference
- **University of Utah** — Salt Lake City, UT
  Research Assistant — *Aug. 2019 – Present*
  - Uncertainty quantification of deep models, Active Learning, Bayesian Optimization and Meta Learning
- **Schlumberger-Doll Research** — Cambridge, MA
  Robotics Research Intern — *Jun. 2018 – Oct. 2018*
  - Research and development of planning algorithms with point cloud observations

Skills

Programming: Python, C, C++, Java, Scala, Matlab

Tools: **PyTorch**, **TensorFlow**, Jax, ROS, $\cdots$

Academic Service

Program Committee Member: UAI 2022, AISTATS 2022, ICMLA 2022

Conference Reviewer: NeurIPS 2022, ICML 2022, AISTATS 2021, ICMLA 2021

Publications

[1] S. Li, R. M. Kirby, and S. Zhe, "Decomposing temporal high-order interactions via latent odes," *International Conference on Machine Learning (ICML)*, 2022.

[2] S. Li, R. M. Kirby, and S. Zhe, "Deep multi-fidelity active learning of high-dimensional outputs," *The 25th International Conference on Artificial Intelligence and Statistics*, 2022.

[3] S. Li, J. Phillips, X. Yu, R. M. Kirby, and S. Zhe, "Batch multi-fidelity active learning with budget constraints," *Neural Information Processing Systems(NeurIPS)*, 2022.

[4] S. Li, Z. Wang, R. M. Kirby, and S. Zhe, "Infinite-fidelity coregionalization for physical simulation," *Neural Information Processing Systems(NeurIPS)*, 2022.

[5] Z. Wang, Y. Xu, C. Tillinghast, S. Li, A. Narayan, and S. Zhe, "Nonparametric embeddings of sparse high-order interaction events," *International Conference on Machine Learning (ICML)*, 2022.

[6] S. Li, R. M. Kirby, and S. Zhe, "Batch multi-fidelity bayesian optimization with deep auto-regressive networks," *Neural Information Processing Systems(NeurIPS)*, 2021.

[7] S. Li, Z. Wang, A. Narayan, R. Kirby, and S. Zhe, "Meta-learning with adjoint methods," 2021. arXiv: 2110.08432 [cs.LG].

[8] S. Li, W. Xing, M. Kirby, and S. Zhe, "Multi-fidelity bayesian optimization via deep neural networks," *Neural Information Processing Systems(NeurIPS)*, 2020.

[9] S. Li, W. Xing, R. M. Kirby, and S. Zhe, "Scalable gaussian process regression networks," in *International Joint Conference on Artificial Intelligence-Pacific Rim International Conference on Artificial Intelligence (IJCAI-PRICAI)*, 2020.

[10] T. Yang, S. Fang, S. Li, Y. Wang, and Q. Ai, "Analysis of multivariate scoring functions for automatic unbiased learning to rank," in *Proceedings of the 29th ACM International Conference on Information & Knowledge Management*, 2020, pp. 2277–2280.