

Zhouyuan Huo

EMAIL: huozhouyuan@gmail.com

RESEARCH INTEREST

Distributed Machine Learning, Federated Learning, Large-Scale Optimization, Deep Learning, Computer Vision, Natural Language Processing.

EDUCATION

University of Pittsburgh

Ph.D. in Computer Engineering

Graduated Apr. 2020

Prof. [Heng Huang](#)

Zhejiang University

B.E. in Electrical Engineering

Graduated Sept. 2014

Prof. [Quanyuan Jiang](#)

RESEARCH EXPERIENCES

Google AI

Research Scientist

May 2020 - Now

Google AI

Research Intern

June 2019 - Aug. 2019

Hosts: [Zachary Garrett](#), [Jakub Konecny](#)

- Project: Accelerating the training of Federated Learning.

Microsoft Research AI

Research Intern

June 2018 - Aug. 2018

Host: [Lin Liang](#)

- Project: Domain Adaptation in image classification and object detection.

PUBLICATIONS

22. [CVPR'20] An Xu, [Zhouyuan Huo](#), Heng Huang. "On the Acceleration of Deep Learning Model Parallelism with Staleness." *Conference on Computer Vision and Pattern Recognition*, 2020.
21. [NeurIPS'19] Qian Yang, [Zhouyuan Huo](#), Wenlin Wang, Heng Huang, Lawrence Carin. "On Accelerating Training of Transformer-Based Language Models." *Conference on Neural Information Processing Systems*, 2019.
20. [EMNLP'19] Qian Yang, [Zhouyuan Huo](#), Dinghan Shen, Yong Cheng, Wenlin Wang, Guoyin Wang, Lawrence Carin. "An End-to-End Generative Architecture for Paraphrase Generation." *Conference on Empirical Methods in Natural Language Processing*, 2019.
19. [AAAI'19a] Bin Gu, [Zhouyuan Huo](#), Heng Huang. "Scalable and Efficient Pairwise Learning to Achieve Statistical Accuracy." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2019.
18. [AAAI'19b] Feihu Huang, Bin Gu, [Zhouyuan Huo](#), Songcan Chen, Heng Huang. "Faster Gradient-Free Proximal Stochastic Methods for Nonconvex Nonsmooth Optimization." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2019.
17. [NeurIPS'18] [Zhouyuan Huo](#), Bin Gu, Heng Huang. "Training Neural Networks Using Features Replay." *Advances in Neural Information Processing Systems*, 2018. [Spotlight]
16. [ICDM'18] [Zhouyuan Huo](#), Xue Jiang, Heng Huang. "Asynchronous Dual Free Stochastic Dual Coordinate Ascent for Distributed Data Mining." *IEEE International Conference on Data Mining*, 2018.

15. [ICML'18a] Zhouyuan Huo, Bin Gu, Qian Yang, Heng Huang. "Decoupled Parallel Backpropagation with Convergence Guarantee." *International Conference on Machine Learning*, 2018. [Oral]
14. [ICML'18b] Bin Gu*, Zhouyuan Huo*, Heng Huang. "Faster Derivative-Free Stochastic Algorithm for Shared Memory Machines." *International Conference on Machine Learning*, 2018. [Oral] (* Equal contribution)
13. [AISTATS'18] Bin Gu, Zhouyuan Huo, Heng Huang. "Asynchronous Doubly Stochastic Group Regularized Learning." *International Conference on Artificial Intelligence and Statistics*, 2018.
12. [AAAI'18a] Zhouyuan Huo, Bin Gu, Ji Liu, Heng Huang. "Accelerated Method for Stochastic Composition Optimization with Nonsmooth Regularization." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2018.
11. [AAAI'18b] Bin Gu, De Wang, Zhouyuan Huo, Heng Huang. "Inexact Proximal Gradient Methods for Non-convex and Non-smooth Optimization." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2018.
10. [AAAI'18c] Bin Gu, Xin Miao, Zhouyuan Huo, Heng Huang. "Scaling Up Generalized Kernel Methods." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2018.
9. [PSB'18] Zhouyuan Huo, Dinggang Shen, Heng Huang. "New Multi-Task Learning Model to Study the Genotype-Phenotype Associations." *Pac Symp Biocomput*, 2018.
8. [IJCAI'17a] Feiping Nie, Zhouyuan Huo, Heng Huang. "Joint Capped Norms Minimization for Robust Matrix Recovery." *Proceedings of International Joint Conference on Artificial Intelligence*, 2017.
7. [IJCAI'17b] Jie Xu, Cheng Deng, Zhouyuan Huo, Xianglong Liu, Feiping Nie, Heng Huang. "Joint Capped Norms Minimization for Robust Matrix Recovery." *Proceedings of International Joint Conference on Artificial Intelligence*, 2017.
6. [AAAI'17a] Zhouyuan Huo, Heng Huang. "Asynchronous Stochastic Gradient Descent with Variance Reduction for Non-Convex Optimization." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2017.
5. [AAAI'17b] Zhouyuan Huo, Shangqian Gao, Weidong Cai, Heng Huang. "Video Recovery via New Sectional Trace Norm with Capped Norm Constrained Variation and Consistency." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2017.
4. [ICDM'16] Dijun Luo, Zhouyuan Huo, Yang Wang, Andrew Saykin, Shen Li, Heng Huang. "New Probabilistic Multi-Graph Decomposition Model to Identify Consistent Human Brain Network Models." *IEEE International Conference on Data Mining*, 2016.
3. [KDD'16] Zhouyuan Huo, Feiping Nie, Heng Huang. "Robust and Effective Metric Learning Using Capped Trace Norm: Metric Learning via Capped Trace Norm." *Proceedings of the 22nd ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 2016.
2. [MICCAI'16] Zhouyuan Huo, Dinggang Shen, Heng Huang. "New Multi-task Learning Model to Predict Alzheimer's Disease Cognitive Assessment." *International Conference on Medical Image Computing and Computer-Assisted Intervention*, 2016.
1. [AAAI'16] Zhouyuan Huo, Ji Liu, Heng Huang. "Optimal Discrete Matrix Completion." *Proceedings of the AAAI Conference on Artificial Intelligence*, 2016.

PROFESSIONAL SERVICES

- **Conference Program Committee:**

ICLR'19,20, NeurIPS'16,18,19, ICML'19,20, IJCAI'18,19,20, AAAI'18,19,20, CVPR'19,20, ICCV'19, ECCV'20, KDD'20

- **Journal Reviewer:**

Journal of Machine Learning Research (JMLR)

IEEE Transactions on Knowledge and Data Engineering (TKDE)
IEEE Transactions on Neural Networks and Learning Systems (TNNLS)
Information Sciences