

ZHENHUAN YANG

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Summary

A motivated, results-driven, and analytical PhD candidate working on data science. Developed multiple efficient algorithms for large scale machine learning problems. Skilled in optimization, statistics, programming, and critical thinking.

Education

State University of New York , Albany—Albany, NY Aug, 2018—Aug, 2022

Ph.D. in Mathematics

Thesis: Stability and Differential Privacy of Stochastic Gradient Methods

State University of New York , Albany—Albany, NY Aug, 2016—May, 2018

M.A. in Mathematics

Sun Yat-sen University—Guangzhou, China Aug, 2012—Jun, 2016

B.A. in Mathematics & Applied Mathematics

University of California, Berkeley—Berkeley, CA Aug, 2014—Jan, 2015

Exchange program in Mathematics Department

Work Experience

Etsy Inc —New York, NY Aug, 2022—now

Applied Scientist

Etsy DSML Organization —New York, NY May, 2021—Aug, 2021

Research Scientist Intern

- Propose differential private user-embedding algorithm with enhanced utility
- Post-process recommendation list to mitigate user group unfairness

Tencent AI Lab—Shenzhen, China May, 2019—Aug, 2019

R&D Intern

- Accelerate training for pix2pixHD-based 2D Broadcaster Synthesis model via extragradient Adam
- Retrain quantized model on certain area to enhance resolution

Albany Medical School—Albany, NY May, 2018—Aug, 2018

Graduate Assistant

- Developed auto epileptic seizure detection algorithm using Fourier transform and SVM

Atmospheric Sciences Research Center—Albany, NY May, 2017—Aug, 2017

Graduate Assistant

- Developed online optimization algorithm for PV-ESS energy system scheduling

Publications

Zhenhuan Yang, Shu Hu, Yunwen Lei, Kush R. Varshney, Siwei Lyu, Yiming Ying. *Differentially Private SGDA for Minimax Problems*. 38th Conference on Uncertainty in Artificial Intelligence (UAI 2022).

Zhenhuan Yang*, Yunwen Lei*, Tianbao Yang, Yiming Ying. *Simple Stochastic and Online Gradient Descent Algorithms for Pairwise Learning*. Thirty-fifth Conference on Neural Information Processing Systems (NeurIPS 2021). (* Equal Contribution)

Puyu Wang, **Zhenhuan Yang**, Yunwen Lei, Yiming Ying, Hai Zhang. *Differentially Private Empirical Risk Minimization for AUC Maximization*, Neurocomputing, 2021.

Yunwen Lei*, **Zhenhuan Yang***, Tianbao Yang, Yiming Ying. *Stability and Generalization of Stochastic Gradient Methods for Minimax Problems*. 2021 International Conference on Machine Learning (ICML 2021). (* Equal Contribution)

Zhenhuan Yang, Yunwen Lei, Yiming Ying. *Stability and Differential Privacy of Stochastic Gradient Descent for Pairwise Learning with Non-Smooth Loss*. The 24th International Conference on Artificial Intelligence and Statistics (AISTATS 2021)

Zhenhuan Yang, Baojian Zhou, Yiming Ying. *Stochastic Hard Thresholding Algorithms for AUC Maximization*. 20th IEEE International Conference on Data Mining (ICDM 2020)

Wei Shen, **Zhenhuan Yang**, Yiming Ying, Xiaoming Yuan. *Stability and Optimization Error of Stochastic Gradient Descent for Pairwise Learning*. Analysis and Applications, 2020 18(5)

Zhenhuan Yang, Wei Shen, Yiming Ying, Xiaoming Yuan. *Stochastic AUC Optimization with General Loss*. Communications on Pure and Applied Analysis, 2020 19(8)

Zhenhuan Yang, Yiming Ying, Qilong Min. *Online optimization for residential PV-ESS energy system scheduling*. Mathematical Foundations of Computing, 2019 2(1)

Patent

Zhenhuan Yang, Shen Li, Haozhi Huang Yonggen Ling, Wei Liu. *Image generation method, apparatus and device*. CN110796594A

Teaching Experience

AMAT 100: PreCalculus—University at Albany, SUNY Spring 2019, Fall 2019

AMAT 108: Elementary Statistics—University at Albany, SUNY Summer 2020

Academic Service

Reviewer — The 36th Conference on Neural Information Processing Systems (NeurIPS 2022)

Reviewer — The 39th International Conference on Machine Learning (ICML 2022)

Reviewer—The 25th International Conference on Artificial Intelligence and Statistics (AISTATS 2022)

Program Committee—Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI 2022)

Reviewer—The 24th International Conference on Artificial Intelligence and Statistics (AISTATS 2021)

Program Committee—The 30th International Joint Conference on Artificial Intelligence (IJCAI-21)

Honors and Awards

UAI 2022 Student Scholarship Jun, 2022

Dean's List and Honored Graduate Jun, 2016

Contemporary Undergraduate Mathematical Contest in Modeling Second Prize Aug, 2013

Mathematics Contest in Modeling Meritorious Winner Feb, 2013

Skills and Others

- **Programming:** Python, Pandas, Pytorch, Matlab, Git
- **Language:** English (professional), Mandarin (native), Cantonese (bilingual)