

# ZHENHUAN YANG

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## Summary

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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

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**State University of New York , Albany**—Albany, NY Aug, 2018—now  
*Ph.D. candidate in Mathematics*

**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

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**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

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**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 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-22)

**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**

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**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**

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