Xufeng Cai

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EDUCATION

University of Wisconsin-Madison

Madison, WI, USA

Ph.D. in Computer Science

Aug. 2020 - Present

Shanghai Jiao Tong University

Shanghai, China

B.S. in Mathematics

Sept. 2016 - June 2020

• Major GPA: 3.67/4.30

• Selected to **Zhiyuan Honors Program**, an elite program for students in the top 5% in school

Hertford College, University of Oxford

Oxford, UK

Exchange Student in Math and Physics Program

June 2018 - July 2018

RESEARCH EXPERIENCE

Stochastic Halpern Iteration for Monotone Inclusions

Madison, WI, USA

Department of Computer Sciences, UW-Madison; Advised by Prof. Jelena Diakonikolas

Aug. 2020 - Present

• Developing the stochastic version of Halpern iteration, and studying the convergence analysis.

Gradient-free Consensus-based Global Optimization Methods

Shanghai, China

Institute of Natural Sciences, SJTU; Advised by Prof. Xiaoqun Zhang & Prof. Shi Jin

Sept. 2019 - May 2020

- Introduced the independent stochastic noise to improve the performance for high-dimensional non-convex problems.
- Achieved high performance in BBOB benchmarking functions, logistic regression, and neural networks.

Deep Generative Model for Molecular Graphs

Urbana, IL, USA

Department of Computer Science, UIUC; Advised by Prof. Jian Peng

July 2019 - Oct. 2019

- Improved the performance of the original DGMG model by designing an innovative generating process with node degree constraints and replacing atoms with chemical radical groups as generating tokens.
- Deployed the batch-training and parallel-training logics to accelerate the auto-regressive generative model training.

WORKING EXPERIENCE

Algorithm Engineer Intern

Shenzhen, China

Interactive Entertainment Group, Tencent

July 2020 - Oct. 2020

- Analyzed and visualized giant volume of daily data.
- Developed graph-based machine learning approach for personalized recommendations.

Teaching

Teaching Assistant

Madison, WI, USA

CS760: Machine Learning

Fall 2020

Class Assistant

Shanghai, China

Grade 2017 Mathematics Class, Zhiyuan College, Shanghai Jiao Tong University

Sept. 2017 - June 2020

Selected Awards & Honors

Shanghai Jiao Tong University, China

Xingcai Scholarship

Merit Student

2018

Academic Excellence Scholarship 2017 & 2018 & 2019

Zhiyuan Honors Scholarship 2016 & 2017 & 2018 & 2019

Kaiyuan Scholarship 2017

Comap, USA

Outstanding Winner | The Interdisciplinary Contest in Modeling 2018

SKIILS

 $\textbf{Technical} \hbox{:} \ C++, \ Python, \ Pytorch, \ HTML, \ \LaTeX$