# Zepeng Zhang

Intelligent Maintenance and Operations Systems (IMOS) Lab
École Polytechnique Fédérale de Lausanne (EPFL)

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## EDUCATION

Ph.D.     Electrical Engineering, École Polytechnique Fédérale de Lausanne, 2023.09-present
Supervisor: Prof. Olga Fink

M.S.      Information and Communication Engineering, ShanghaiTech University, 2020.09-2023.07
Overall GPA: 3.95/4.00; Major GPA: 4.00/4.00;

B.Eng.    Measuring & Control Technology and Instrumentations, Wuhan University, 2016.09-2020.05

## EXPERIENCES

2023.02–2023.04     Research Intern, Peking University

2019.12–2020.09     Visiting Student, ShanghaiTech University

2019.07–2019.09     Visiting Student, City Univercity of HongKong

2018.01–2020.06     Member, WHUAI (ZhuYing Team)

## CURRENT RESEARCH INTERESTS

Graph Machine Learning, Neural Algorithmic Reasoning

## PUBLICATIONS

1. ASGNN: Graph Neural Networks with Adaptive Structure
   **Zepeng Zhang**, Songtao Lu, Zengfeng Huang, and Ziping Zhao
   Preprint. [Paper]

2. Rate Maximizations for Reconfigurable Intelligent Surface-Aided Wireless Networks: A Unified
   Framework via Block Minorization-Maximization
   **Zepeng Zhang**, and Ziping Zhao
   Preprint. [paper]

3. Towards Understanding Graph Neural Networks: An Algorithm Unrolling Perspective
   **Zepeng Zhang**, and Ziping Zhao
   *KDD Workshop on Deep Learning on Graphs: Methods and Applications (DLG-KDD) 2022.* [paper]

4. Enhancing the Efficiency of WMMSE and FP for Beamforming by Minorization-Maximization
   **Zepeng Zhang**, Ziping Zhao, and Kaiming Shen
   *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP).*

5. Weighted Sum-Rate Maximization for Multi-Hop RIS-Aided Multi-User Communications: A Minorization-Maximization Approach.
   **Zepeng Zhang** and Ziping Zhao
   *IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC) 2021.* Best Student Paper Award Finalist [paper|video]

6. Multi-Period Portfolio Optimization for Financial Index Tracking.
   Xiuyuan Huang, **Zepeng Zhang**, and Ziping Zhao
   *Annual Asilomar Conference on Signals, Systems, and Computers (ACSSC/Asilomar) 2021.* [paper]

7. Scalable Financial Index Tracking With Graph Neural Networks.
   **Zepeng Zhang**, and Ziping Zhao
   *IEEE Statistical Signal Processing Workshop (SSP) 2021.* [paper|video]

8. A Deep Learning-Aided Approach to Portfolio Design for Financial Index Tracking.
   **Zepeng Zhang**, and Ziping Zhao
   *Annual Asilomar Conference on Signals, Systems, and Computers (ACSSC/Asilomar) 2020.* [paper]

## AWARDS AND HONORS

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|---|---|
| 2021 | Best Student Paper Award Finalist in IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC) |
| 2019 | Yu Gang Scholarship (Top 1%, Rank 1st out of the department), WHU<br>Outstanding Student First-Class Scholarship (Top 5%), WHU |
| 2018 | SAMSUNG Scholarship (Top 1%, Rank 1st out of the department), WHU<br>Outstanding Student First-Class Scholarship (Top 5%), WHU<br>1st prize of RoboCup China Open<br>1st prize of Asia and Pacific Mathematical Contest in Modeling<br>3rd prize of The Chinese Robot Skills Competitions |
| 2017 | Outstanding Student Second-Class Scholarship (Top 15%), WHU<br>1st prize of The Chinese Mathematics Competitions, Hubei Prov. |

## TEACHING ASSISTANT

**ShanghaiTech University**

CS182: Introduction to Machine Learning 2021-22 Fall

SI 231: Matrix Analysis and Computations 2020-21 Spring, 2021-22 Spring

## ACADEMIC SERVICE

Reviewer: Neurocomputing, TGL-NeurIPS 2022, AISTATS 2023, WWW 2023, IEEE MLSP 2023

## SKILLS

Python, MATLAB, CVX, PyTorch, PyG, LaTeX

Toefl: 105 (Reading: 30; Listening: 27; Speaking: 22; Writing: 26)