

Bowen Xu

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Place of birth: Yangzhou, Jiangsu, China * *Date of birth:* 2002-08-16

Personal Profile

Junior, Major in **Computer Science (CS)**

Instructor: Ziyu Shao

Research Interests: Bandits & Reinforcement Learning, Network Intelligence, Distributed AI Systems

Education

ShanghaiTech University(Co-Founded by the Chinese Academy of Sciences)

Sep 2020 - Jun 2024(Expected)

- Undergraduate; School of Information Science and Technology
- **GPA:** 3.78 / 4.0 (10 / 178, top 5%)
- **Honors:** Merit Student (2020-2021), Outstanding Student (2021-2022)

Curriculum

- **Mathematics:** Mathematical Analysis I (A) / Mathematical Analysis II (A) / Linear Algebra (A) / Discrete Mathematics (A-) / Probability and Statistics I (A-) / Numerical Optimization (A+) / Convex Optimization (A+)
- **Major:** Introduction to Information Science and Technology (A-) / Introduction to Programming (A) / Algorithms and Data Structures (A-) / Computer Architecture I Project (A+) / Reinforcement Learning (A+) / Artificial Intelligence I (A) / Deep Learning (A)

Honors and Awards

- **Merit Student (top 3%)** ShanghaiTech University, 2020-2021
- **Outstanding Student (top 7-8%)** ShanghaiTech University, 2021-2022
- **Mathematical Contest in Modeling (MCM):** Honorable Mention, 2022
- **Mathematics Competition of Chinese College Student:** Second Prize, 2021
- **Mathematics Competition of Chinese College Student:** Third Prize, 2022

Research Experience

At Network Intelligence Center (NICE), ShanghaiTech University, Shanghai, China.

Jan, 2022 - Present

Dueling Bandit Algorithm Review

Jun 2022 - Oct 2022

- Conducting a literature review of existing dueling bandit algorithms.
- Made systematic review slides and a mind map for dueling bandit algorithms.

Transformer Model Review

Dec 2022 - Feb 2023

- Detailed investigate Transformer model and BERT model (including motivation, architecture, application, further development, etc.)
- Made detailed review slides for Transformer model.

Multi-Arm Bandit with Supervised Feedback

Feb 2023 - Present

Position: Coworker

- Design an innovative MAB model, which combines Bandit Feedback with Supervised Feedback.
- Simulate the new model in the Federated distillation scene.

Bandit Learning from Human Feedback

Mar 2023 - Present

Position: Co-worker

- Investigate the RLHF (Reinforcement Learning from Human Feedback) model in ChatGPT.
- Using human feedback to train the bandit learning model, which is a lightweight RLHF.

Implementation of DRL(Deep Reinforcement Learning)

Apr 2023 - Present

Position: Co-worker

- Build GPU clusters and build large neural networks.
- Reproduce the effect of AlphaTensor and AlphaGo.

Teaching Assistantship

Mathematical Analysis II (Head TA)

Sep 2021 - Jan 2022

- Organize teaching assistant work & carry out online teaching.
- Weekly in-person tutorial and after-class question (including exercise & discussion sessions)
- Assignment (including weekly exercise, exam paper, etc.) design & grading.

Probability and Statistics for EECS

Feb 2023 - Present

- Weekly in-person tutorial and after-class question (including exercise & discussion sessions)
- Assignment (including weekly exercise, project topic, exam paper, etc.) design & grading.

Activities

- **Social Practice, Group Leader(Advanced Individual), Gansu, China 2021**
Assist Longnan Guanegou National Forest Park to create an AAAAAA Tourist Attraction of China.
- **Aviation Industry Industrial Activities, Group Leader, Yangzhou 2022**
- **Artificial Intelligence Industrial Practice, Shanghai 2022**
- **Volunteer for Shanghai Marathon 2020, 2022**
- **Volunteer for ShanghaiTech University Epidemic Prevention and Control 2022**

Technical skills

Programming Languages/Tools

C, C++, Python(Pytorch), Matlab, L^AT_EX, etc.

Language proficiencies

English

CET-4 610, CET-6 509