

# ZHAO HAIBO

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## Objective

Enter your objective here

## Education

**Tongji University, Shanghai, China**

*Software Engineering (major in Machine Learning)*

**2020 – 2024**

*GPA: 88.45/100*

## Preprints

**Paper Title:** A Stochastic Polyhedral Approximation Method for Decentralized Composite Bilevel Optimization

**Author:** Ya Liu, Kai Yang\*, **Haibo Zhao**, Yu Zhu, Keying Yang

**Submitted:** Association for the Advancement of Artificial Intelligence (AAAI) | [Publication link](#)

## Research Experience

**Kai Yang lab, Tongji University**

**Apr 2022 – Oct 2022, China**

Research Topic: Developing a novel algorithmic framework to address bi-level programming problems using the cutting-plane method.

- Derived the specific elaboration of the general algorithmic framework in the field of meta-learning.
- Utilized PyTorch to complete the code implementation of the algorithm.
- Reproduced the code from similar papers (ANIL, iMAML) and conducted a comparison with our method.

Result: The paper was published at ICLR 2023, and my experimental results were adopted.

**Kai Yang lab, Tongji University**

**Oct 2022 – Now, China**

Research Topic: Expanding the previous algorithmic framework to a distributed setting and incorporating gradient tracing and proximal gradient.

- Completed the mathematical derivation of the algorithmic framework incorporating the proximal gradient.
- Implemented the algorithm for meta-learning and hyperparameter optimization using the PyTorch framework.
- Reproduced the code from similar papers and conducted a comparison with our method.

Result: Co-authoring a paper currently under submission to AAAI (Association for the Advancement of Artificial Intelligence).

**SITP(Student Innovation Training Program), Tongji University**

**May 2021 – May 2022, China**

Research Topic: Designing a community travel system tailored for the visually impaired population.

- Conducted on-site investigations and recorded the travel conditions of the visually impaired community.
- Used the Huawei HarmonyOS development kit to create a smart sensing device.

Result: Co-authoring a paper currently under submission to AAAI (Association for the Advancement of Artificial Intelligence).

## Projects

**Camera Calibration Tool** | [Git](#)

**Computer Vision Course Final Project**

- Built a visual tool interface using Qt.
- Implemented camera calibration functionality using C++ and OpenCV library functions.

**Diabetic Retinopathy Detection** | [Publication link](#)

**Generalized Project of Research Stream Final Project**

- Conducted filtering, cleaning, and other preprocessing on the DDR dataset.
- Built a Unet+ResNet50 model and completed the diabetic retinopathy classification task.
- Built a BiRA-Net model and accomplished the diabetic retinopathy grading task.

**Online Game Store** | [Git](#)

**Database Course Final Project**

- Developed the front-end webpage using the Vue framework.
- Conducted back-end development using the Spring Boot framework.
- Performed database management using MySQL.

## Honors

**Second Prize**, China Undergraduate Mathematical Contest in Modelling at University-level.

**May 2021**

**First Prize**, International College Students' 'Internet+' Innovation and Entrepreneurship at University-level.

**Jun 2021**

**Second Prize**, China Undergraduate Mathematical Contest in Modelling at Province-level.

**Nov 2021**

**Second Prize**, National College Student Electrical and Mathematical Modeling Competition at National-level.

**May 2023**