

# Yang Bai

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 Google Scholar  GitHub  Website

## Research Interests

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Vision-Language Understanding, Multi-modal Learning, Contrastive Learning, Self-supervised Learning

## Education

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### Soochow University

MEng, Computer Technology

Suzhou, China

Sept. 2021 – Now

### Renmin University of China

BEng, Computer Science and Technology

Beijing, China

Sept. 2013 – Jun. 2017

## Publications

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1. **Yang Bai**, Jingyao Wang, Min Cao, Chen Chen, Ziqiang Cao, Liqiang Nie, Min Zhang. [Text-based Person Search without Parallel Image-Text Data](#). *ACM International Conference on Multimedia (ACM MM)*, 2023.
2. **Yang Bai**, Min Cao, Daming Gao, Ziqiang Cao, Chen Chen, Zhenfeng Fan, Liqiang Nie, Min Zhang. [RaSa: Relation and Sensitivity Aware Representation Learning for Text-based Person Search](#). *International Joint Conference on Artificial Intelligence (IJCAI)*, 2023.
3. Min Cao, **Yang Bai**, Ziyin Zeng, Zhenfeng Fan, Liqiang Nie, Min Zhang. [An Empirical Study of CLIP for Text-based Person Search](#). [Under Review] (\*First student author)
4. Min Cao, **Yang Bai**, Jingyao Wang, Ziqiang Cao, Liqiang Nie, Min Zhang. [Efficient Image-Text Retrieval via Keyword-Guided Pre-Screening](#). [Under Review] (\*First student author)
5. Mengxia Wu, **Yang Bai**, Min Cao, Chen Chen, Liqiang Nie, Min Zhang. [An Empirical Study of Frame Selection for Text-Video Retrieval](#). [Under Review]

## Research Experience

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### Text-based Person Search (TBPS)

TBPS aims to retrieve the images of the target person based on a given natural language description.

- Proposed two pretext tasks for TBPS from the perspectives of sample relations and sensitive transformations, and outperformed existing SOTAs by 6.94% at Rank@1 on CUHK-PEDES benchmark.
- Made the first attempt to explore TBPS without parallel image-text training data, which substantially alleviates costly and time-consuming human annotation.
- Conducted a comprehensive empirical study to explore the potential of CLIP for TBPS from the views of training tricks, data augmentation and loss design.

The work resulted in two publications in ACM MM 2023 and IJCAI 2023, and one submission (under review).

### Image-Text Retrieval

- Proposed a keyword-guided pre-screening framework for improving image-text retrieval efficiency.

The work resulted in one submission (under review).

## Video-Text Retrieval

- Presented an empirical study of frame selection for video-text retrieval and proposed three frame-selection strategies (i.e., redundancy-aware selection, low quality-aware selection and text-guided selection).

*The work resulted in one submission (under review).*

## Work Experience

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### Waterdrop Inc.

Algorithm Engineer

Beijing, China

Mar. 2019 – Apr. 2020

- Responsible for designing the verification module to confirm the credibility of fundraising individuals.
- Led specific medical data collection efforts to support research and analysis.

### Run Technologies CO., LTD

Java Engineer

Beijing, China

May 2017 – Jan. 2019

- In charge of large-scale and real-time public opinion data collection from major news portals and achieved a daily data increment of 200 million.
- Involved in the design of the distributed data collection system using the Spring Boot framework.

## Awards

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**Outstanding Graduate Student**, Soochow University

Jun. 2023

**Second-Class Academic Scholarship**, Soochow University

Oct. 2022

**Second-Class Academic Scholarship**, Soochow University

Oct. 2021

**Best Newcomer Award**, Run Technologies CO., LTD

Jan. 2018

**Outstanding Volunteer**, Renmin University of China

Mar. 2014

## Others

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**Reviewer** in EMNLP 2023, ECAI 2023

**Teaching Assistant** in COMS3006 (Algorithm Design and Analysis in Soochow University)