

Yuanhuiyi Lyu

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Personal Profile

I'm now a fourth-year undergraduate student in Northeastern University (Shenyang, China), and affiliated with the School of Computer Science and Engineering.

My research interests include Deep Learning(DL), Multimodal Learning, Natural Language Processing(NLP) and Information Retrieval(IR).

Education

Northeastern University

Shenyang, China

Bachelor in Artificial Intelligence

Sept 2019 - June 2023

- GPA: 86.60/100
- **Courses:** Data Structure/Algorithm, Optimization Methods, Machine Learning, Discrete Mathematics, Linear Algebra, Probability Theory and Mathematical Statistics, Deep Learning, Natural Language Processing
- **Activities:** Machine Learning Club in Northeastern University, Students Guidance Service Centre of Northeastern University

Research Experience

Tsinghua NLP Lab

Beijing, China

Research Intern

Oct 2021 - Dec 2022

- **Supervisor:** Zhenghao Liu, Chenyan Xiong, Zhiyuan Liu
- **Research Area:** Multi-Modal Learning, Information Retrieval
- **Achievements:** One paper accepted to **ICLR 2023**

NEU NLP Lab

Shenyang, China

Research Intern

June 2021 - Sept 2021

- **Supervisor:** Tong Xiao
- **Research Area:** Natural Language Processing
- **Achievements:** An open source project has been released on Github

Publications

Universal Vision-Language Dense Retrieval: Learning A Unified Representation Space for Multi-Modal Retrieval

Zhenghao Liu, Chenyan Xiong, **Yuanhuiyi Lv**, Zhiyuan Liu, Ge Yu

The Eleventh International Conference on Learning Representations (**ICLR 2023**)

Open-Source Projects

Fundus Image Segmentation Base On U-Net

Shenyang, China

Key Laboratory in Intelligent Medical Image Computing at Northeastern University

June 2022 - Sept 2022

- We used U-net to classify the fundus image at the pixel level, setting the pixels in the vascular region to 1 and the pixels in the non-vascular region to 0 to create a binary image that would segment the vascular region in the 2D fundus image.
- The code is open source at <https://github.com/QC-LY/Fundus-Image-Segmentation>

Prompt Tuning For Sentiment Classification Base On Pre-trained Language Models

Shenyang, China

NEU NLP Lab

June 2021 - Sept 2021

- We explore the differences in performance among Full Fine-tuning, Bias-term Fine-tuning and Prompt-tuning in the process of building a pre-training-based sentiment classification model. To improve the performance of the prompt, we build a knowledge-based verbalizer by acquiring knowledge from WordNet.
- The code is open source at <https://github.com/QC-LY/Prompt-Tuning-For-Sentiment-Classification>

Honors and Awards(Selected)

2020 **Outstanding Students Scholarship**, Northeastern University

Shenyang, China

2021 **Outstanding Students Scholarship**, Northeastern University

Shenyang, China

2023 **Outstanding Students Scholarship**, Northeastern University

Shenyang, China

2021 **The First Prize in China Undergraduate Mathematical Contest in Modeling**, CSIAM

Shenyang, China

References available upon request.