

# Yuhan Liu

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## Research Interests

My greatest interest lies in natural language processing, specifically in natural language generation, knowledge graphs, reasoning, graph neural networks, and social network analysis. Besides, I have done research in various areas such as Twitter bot detection, graph representation learning, and multi-object detection (computer vision). Now I'm working on the controllable generation of pretrained language models.

## Education

**Xi'an Jiaotong University**, Xi'an, Shaanxi, China (member of the C9 league in China) 2020.09 - present

B.E. in Automation Science and Informatics

GPA: 94.3/100, rank 1st/33

Advisor: Prof. Minnan Luo

**The Special Class for the Gifted Young / Honors Youth Program**, 2018.09 - present

## Publications (\* indicates equal contribution)

[2] **BotMoE: Twitter Bot Detection with Community-Aware Mixtures of Modal-Specific Experts.**

Yuhan Liu, Zhaoxuan Tan, Heng Wang, Shangbin Feng, Qinghua Zheng, Minnan Luo.

*In Proceedings of SIGIR, 2023.*

[1] **Twibot-22: Towards Graph-Based Twitter Bot Detection.**

Shangbin Feng\*, Zhaoxuan Tan, Herun Wan\*, Ningnan Wang\*, Zilong Chen\*, Binchi Zhang\*, Qinghua Zheng, Wenqian Zhang, Zhenyu Lei, Shujie Yang, Xinshun Feng, Qingyue Zhang, Hongrui Wang, Yuhan Liu, Yuyang Bai, Heng Wang, Zijian Cai, Yanbo Wang, Lijing Zheng, Zihan Ma, Jundong Li, Minnan Luo.

*In Proceedings of the NeurIPS Datasets and Benchmarks Track, 2022.*

## Honors and Awards

National Scholarship 2022

National Scholarship 2021

Dean's List, Xi'an Jiaotong University 2021

Outstanding Award, National English Competition for College Students 2020

Dean's List, Xi'an Jiaotong University 2020

First Prize, The Chinese Mathematics Competitions 2019

## Experience

**Research Assistant** of the **LUD lab**, focusing on graph-based Twitter bot detection and knowledge graph embedding learning. Advisor: Minnan Luo @ Xi'an Jiaotong University, China

**Vice President of XJTU VTOL club**, leading a team focusing in 3D object detection. Advisor: Tonghui Wu @ Xi'an Jiaotong University

**National Undergraduate Training Programs for Innovation and Entrepreneurship**, Xi'an Jiaotong University 2022.5-

Knowledge graph representation learning based on pretrained language models

Advisor: Minnan Luo @ Xi'an Jiaotong University, China

**CHINA ROBOT COMPETITION**, Xi'an Jiaotong University 2021.10-2021.11

As the leader of the team, I implemented a complete software to realize multi-object detection and communication with the judging machine on Jetson Nano ( a small, powerful computer designed to power entry-level edge AI applications) with my teammates.

Advisor: Tonghui Wu @ Xi'an Jiaotong University, China

**Research Experience**, Xi'an Jiaotong University 2021.10-2022.2

Complete semantic segmentation part for a multi-modal project about medical image processing

Advisor: Shaoyi Du @ Xi'an Jiaotong University, China

**National Undergraduate Training Programs for Innovation and Entrepreneurship**, Xi'an Jiaotong University 2021.3-7

Fast Boolean Operation of Triangular Network Model Based on GPU

Advisor: Yijun Yang @ Xi'an Jiaotong University, China

## Services

Reviewer for NeurIPS, Datasets and Benchmarks Track 2022

## Skills

### Programming Languages:

-Proficient: Python, MATLAB, C/C++

**Tools and Frameworks:** PyTorch,  $\LaTeX$ , Visual Studio, MobaXTerm, Git, ssh, Vim

**Natural Languages:** Mandarin (native), English (fluent)