

# Yifan Liu

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## EDUCATION

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New York University, New York, United States

Sept.2021-May.2023(Expected)

Master of Science, Computer Science, Overall GPA:3.85

University of California, Davis (UC Davis), Davis, United States

Sept.2017-Jun.2021

Bachelor of Engineering, Computer Science and Engineering, Major GPA: 3.7

Award: Research Scholar for Outstanding Academic Achievement

## PROFESSIONAL EXPERIENCE

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### Software Development Engineer Intern

ByteDance (TikTok's owner, a technology company with \$58 billion revenue in 2021)

Jun.2022- Aug.2022

- Participated in the development and maintenance of TouTiao iOS client (**DAU: 300Milliom**) in Swift, Objective C.
- Designed a non-intrusive, low coupled event tracking kit to track user impression of context in the feed stream. Validated performance from client side using AB testing, refined tracking parameters with data scientists, and solve Oncall problems after launching.
- Developed a deprecated libraries detecting and replacing script, integrated into the pipeline of merge requests.

### Research Assistant at New York University with Prof. Torsten Suel

Distributed Search Engines

Jan.2022-Present

- Participated in individual research project to work on high-performance search engines with the design of pairwise regression models to estimate the Top-k Threshold value with real-time queries in C++.
- Used **ID3** algorithm and **Random Forest** to determine variable importance from query dataset in C++.
- Diminished the size of trained model with refined features to achieve **15% run-time performance improvement** and **60% model size reduction**

### Research Assistant at Carnegie Mellon University with Prof. Pradeep Ravikumar

CNN Mask Wearing Recognition (Paper Published)

May.2020-Aug.2020

- Built the mask recognition model using **YOLOv5** in Python with the **accuracy of 90.2%** over 420 testing images.
- Developed algorithm to optimize anchor boxes for our training dataset and achieved **17% accuracy improvement**.

### Software Developer Research Assistant at UC Davis with Prof. Daisuke Sato

Theoretical Cardiology Lab

Sept.2019-May.2020

- Applied C++ to design physiologically detailed computer models on the exploration of how tissue geometry affects action potential wave propagates in cardiac tissue.
- Research achievement presented at the **URC2020 academic conference** in April 2020

## PROJECTS

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### Resume Scanner (Full-Stack-Project, Google Affinity)

Jan.2021-Jun.2021

- Designed parsing algorithm for recruiters to filter candidates from massive resumes of different formats in Python.
- Trained the **CNN** classifier for "Single/Double-Column" resume dataset with 500+ resumes collected by using Python **BeautifulSoup** web crawler pkg and labeled manually.
- Applied Google's **OCR**, machine learning header classifier, and **NLP** models to analyze input resume context and stored the extracted info to **SQL** Google Cloud Server and achieved the classification **accuracy by 90%**.

## PUBLICATION

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1. **Yifan Liu**, BingHang Lu, Jingyu Peng, Zihao Zhang. *Research on the Use of YOLOv5 Object Detection Algorithm in Mask wearing Recognition*. World Scientific Research Journal, 2020 (DOI: 10.6911/WSRJ.202011\_6(11).0038).
2. Graham Todd, Zegang Cheng, **Yifan Liu**, Julian Togelius, *Towards Knowledge-Graph Constrained Generation for Text Adventure Games*. NAACL 2022 Workshop Wordplay Program, 2022.

## TECHNICAL SKILLS

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- Computer Skills: C, C++, Python, Swift, Objective C, Java, Assembly, MATLAB, R, SQL, Git, AWS