

YUAN YAO

University of Southern California | +1 (734) 882-9251 | yyao3787@usc.edu | yuanyao.me

EDUCATION

University of Southern California, Los Angeles

California, USA

Ph.D. in Computer Science (Aug. 2023 - Present)

University of Michigan, Ann Arbor

Michigan, USA

Ph.D. in Computer Science and Engineering (Aug. 2021 - Aug. 2023)

Advised by: Professor Harsha V. Madhyastha

University of Michigan, Ann Arbor

Michigan, USA

B.Eng. in Computer Science and Engineering (Aug. 2019 - May. 2021)

GPA: 3.95 / 4.00

Shanghai Jiao Tong University UM-SJTU Joint Institute

Shanghai, China

B.S.E in Electrical and Computer Engineering (Sept. 2017 - Aug. 2021)

GPA: 3.70 / 4.00

***Selected Coursework:** Advanced Operating Systems (A), Computer Networks (A+), Web Systems (A+), Deep Learning for Computer Vision (A), Algorithms (A)*

RESEARCH EXPERIENCE

Cost-Effective Support for Cloud-Assisted 3D Printing

Ann Arbor, MI

Graduate Student Research Assistant, advised by Prof. Harsha Madhyastha

Aug. 2021 - Present

- Designing in ongoing research a new system to speed up computation and reduce costs for executing 3D printer controlling algorithm on cloud services
- Working closely with a Mechanical Engineering group to provide insights from Computer Science perspective
- Participating in building a Federated Learning framework for data sharing and optimizing the quality of 3D printing

Consistency Analysis of Data Usage Purposes in Mobile Apps

Ann Arbor, MI

Research Assistant at Real-Time Computing Laboratory, directed by Prof. Kang Shin

May 2020 - Apr. 2021

- Detected inconsistencies and contradictions of data usage purposes in Mobile Apps
- Worked with a Ph.D. student and produced a paper submitted to ACM CCS'21 as 2nd author
- Built a crawler to collect a list of more than 1 million app ids from Google Play Store
- Built a system that captured more than 2 million traffics from over 20k android apps, classified the purposes of the collected traffic
- Built a webserver to monitor the status of the system and perform keyword searches on the results

Connecting high-resolution 3D chromatin organization with epigenomics

Ann Arbor, MI

Research Assistant at Liu Lab, directed by Prof. Jie Liu

Jan. 2020 - Oct. 2021

- Used deep learning model to learn a mapping function from epigenomic features to 3D chromatin organization
- Worked with a Ph.D. student and produced a manuscript submitted to Nature Communications as 2nd author
- Built a data pipeline to collect, pre-process and impute epigenomic data
- Built a web system Chromosomal Structure And Epigenomics Analyzer (CAESAR) using Python Flask
- Website hosts and visualized a model called Nucleome Browser, allowing concurrent users to calculate attributions and see results in real-time

PUBLICATIONS

- Connecting high-resolution 3D chromatin organization with epigenomics [page]
Fan Feng, Yuan Yao, Xue Qing David Wang, Xiaotian Zhang, Jie Liu
2022 Nature Communications
- Consistency Analysis of Data Usage Purposes in Mobile Apps [page] [pdf]
Duc Bui, Yuan Yao, Jongmin Choi, Junbum Shin, Kang G. Shin
2021 ACM SIGSAC Conference on Computer and Communications Security (CCS '21)