

Rem Yang

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Education

University of Illinois Urbana-Champaign

Bachelor of Science in Computer Science

Advisors: Sasa Misailovic, Gagandeep Singh, Deepak Vasisht

May 2023

GPA: 4.0/4.0

Research

CONFERENCE PAPERS AND PREPRINTS

[1] **Provable Defense Against Geometric Transformations**

Rem Yang, Jacob Laurel, Sasa Misailovic, and Gagandeep Singh

International Conference on Learning Representations (**ICLR**) 2023 submission; positive reviews (top 6%) on [OpenReview](#)
arXiv:2207.11177

[2] **Multi-Modal Self-Supervised Learning for Satellite Image Time Series**

Jayanth Shenoy*, Rem Yang*, Han Zhao, and Deepak Vasisht (* denotes equal contribution)

IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**) 2023 submission

[3] **A General Construction for Abstract Interpretation of Higher-Order Automatic Differentiation**

Jacob Laurel, Rem Yang, Shubham Ugare, Robert Nagel, Gagandeep Singh, and Sasa Misailovic

ACM SIGPLAN Conference on Object-oriented Programming, Systems, Languages, and Applications (**OOPSLA**) 2022

[4] **A Dual Number Abstraction for Static Analysis of Clarke Jacobians**

Jacob Laurel, Rem Yang, Gagandeep Singh, and Sasa Misailovic

ACM SIGPLAN Symposium on Principles of Programming Languages (**POPL**) 2022

[5] **Statheros: Compiler for Efficient Low-Precision Probabilistic Programming**

Jacob Laurel, Rem Yang, Atharva Sehgal, Shubham Ugare, and Sasa Misailovic

ACM/IEEE Design Automation Conference (**DAC**) 2021

POSTERS

[6] **Federated Machine Unlearning**

Rem Yang, Supriyo Chakraborty, and Parijat Dube

Illinois Scholars Undergraduate Research (**ISUR**) Expo 2022

Research papers and posters are available on [my personal webpage](#).

Teaching and Work Experience

CS 225 Data Structures

Course Assistant

UIUC

Aug 2020 – May 2021

- Explained data structures concepts and addressed student questions during weekly lab sections
- Held weekly office hours to help students on programming assignments

CS 126 Software Design Studio

Course Assistant

UIUC

Jan 2020 – May 2020

- Led weekly code reviews, facilitating project presentations and discussions of best practices in program design, style, and testing
- Graded five students' weekly projects, with emphasis on detailed and individual feedback

Psyonic

Mobile Application Developer Intern

Champaign, IL

Sep 2020 – Dec 2020

- Developed React Native app that controls the company's bionic arm; deployed on Android and iOS
- Programmed interface for changing robotic hand's grips and toggles

Awards

CRA Outstanding Undergraduate Researcher Award Nomination: selected by department (one of four); currently under external award consideration by the Computing Research Association

SIGPLAN PAC Travel Grant: for attending PLMW and POPL 2022

C3SR-URAI Scholar: for Spring 2022 project collaboration with IBM researchers

Leadership

Illinois Computer Science Sail

Tech Team Advisor

UIUC

Jul 2020 – May 2021

- Mentored tech team of Sail, an annual outreach event where high school students attend CS classes taught by UIUC students
- Deployed new website to Apache server and set up MySQL database

Tech Team Lead

Nov 2019 – Jun 2020

- Created new website from scratch with Django, which streamlined teacher course creation, student registration, and administrative tasks like mass-mails and event check-in; used by 300+ high school and 100+ college students
- Co-organized Sail 2020 with team of twelve; managed website and event registration logistics

Developer Student Club

Outreach Staff Member

UIUC

Nov 2019 – May 2020

- Prepared lessons and labs for Google technologies, such as Firebase and Flutter, with team of five
- Led an Introduction to Flutter workshop, presented to 20 members