

XINYUE(CAMELLIA) RUI

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EDUCATION

University of Southern California
M.S. Biostatistics

August 2020 - May 2022
GPA: 3.95

University of Southern California
B.A Mathematics

August 2019 - May 2022
GPA: 3.71

University of Wisconsin-Madison
Transferred Out

August 2017- May 2019
GPA: 3.86

RESEARCH EXPERIENCE

Research Assistant

University of Southern California, Keck School of Medicine

May 2020 – Present

with Prof. Charleston Chiang

- Built Pipeline and Automation Scripts for accessing imputation quality over 120+ populations all over the world for Genome Wide Association Study
- Familiar with Python, R, Plink, and high performance computing in Linux system
- Awarded Provost Research Fellowship twice (in fall 2020 and fall 2021) and presented research progress during undergraduate poster session
- Performed simulations of admixed populations using Msprime, pySlim and SLiM, working on a project on admixture mapping
- Mentored three undergraduate students in the lab

Research Assistant

Wisconsin National Primate Research Center

Jan 2018 - May 2019

with Prof. David H Abbott

- Worked on the independent project on PCOS (Polycystic Ovary Syndrome) using primate model
- Analyzed MRI (magnetic resonance images) of 20 marmosets' brains, collecting data and doing statistical analysis to validate the efficiency of shRNA insertion
- Dosed 40 adult and juvenile rhesus female monkeys, assisting many lab procedures like necropsy
- Presented research progress during undergraduate poster session and submitted the final report

Research Intern

RIKEN/Institute of Physical and Chemical Research, Osaka, Japan

Jun 2019 – Aug 2019

with Dr. Yuichi Taniguchi

- Worked on an independent project at a single cell dynamic lab researching single molecule ELISA (Enzyme-linked immunosorbent assay)
- Performed Data analysis of dosage and efficiency
- Performed lab procedures like Hela cells culture and subculture, Lysis of cells, PAGE (Polyacrylamide Gel Electrophoresis), and Western-Blotting

Research Assistant

University of Wisconsin-Madison, Department of Biochemistry

Dec 2018 – May 2019

with Prof. James M. Ntambi

- Research assistant on genetically related obesity
- Performed lab procedures like DNA extraction on mice, PCR, and agarose electrophoresis

PUBLICATIONS

Estimating heritability explained by local ancestry and evaluating stratification bias in admixture mapping from summary statistics Nov 2021

In preparation

A global view of disparity in imputation resources for conducting genetic studies in diverse populations Oct 2021

In preparation

HONORS AND AWARDS

Jennifer Battat Scholarship June 2021

Recognized exceptional transfer students majoring in Economics or Mathematics, honor academic and personal achievements and continued contributions as an outstanding member of the USC Dornsife student community

Provost Research Fellowship Sep 2020, Sep 2021

Awarded 150 students at USC on excellent independent project with a faculty member

Undergraduate Scholarship for Summer Study April 2019

Honor undergraduate students with academic success, who enrolled in summer courses at UW-Madison

LEADERSHIP AND COMMUNITY SERVICE

Transfer Ambassador Oct 2020 - present

USC Dornsife College of Letters, Arts, and Science

- Helping with connecting prospective students/newly admitted students with transfer ambassadors
- Counseling with newly admitted transfer students on their degree plan, course work and career path
- Organizing bonding activities for transfer student community
- Organizing and editing biweekly newsletters for the transfer student community

Research Mentor Jan 2021 - Present

University of Southern California

- Mentoring three undergraduate students in the lab, in lead of the project
- Organizing weekly meetings and communicating on the mentees' progress
- Providing tutorials, assistance and feedback on mentees' work
- Keeping track of the progress of the project and communicate between PI and mentees

Undergraduate Peer Research Leader Dec 2018 - May 2019

University of Wisconsin-Madison

- Organized workshops providing scientific research opportunities to undergraduates on campus
- Worked on the independent projects on arising interests in scientific researches
- Assisted peer students involved in research by meeting with them in an integrated science course on a weekly basis

RELEVANT COURSES

Core Courses

Introduction to Mathematical Statistics
Real Analysis
Probability Theory
Mathematical Statistics
Statistical Analysis of High-Dimensional Data
Statistical Genetics
Introduction to Biostatistics
Machine Learning through Python

Other Courses

Python for Programmers
Data Analysis I
Data Analysis II
Introductory Statistics for the Life Sciences
Introductory Biology I, II
Genetics and Diseases
Introduction to Epidemiology
Organic Chemistry I, II

SKILLS

Programming Languages

Python, R

Statistical Packages

SAS, Stata