

# HAOSHENG ZHOU

(332)-248-7535 | hzhou593@ucsb.edu | [Personal Website](#) | [LinkedIn Profile](#)

## EDUCATION

---

**University of California, Santa Barbara (UCSB), Department of Statistics and Applied Probability** Santa Barbara, CA  
*PhD in Applied Probability and Mathematical Statistics;* Present

**New York University (NYU), Courant Institute of Mathematical Science** New York, NY  
*Master in Mathematics; GPA: 3.86/4.0* Sep 2020 – May 2022

- **Relevant Coursework:** Advanced courses in Probability, Statistics, Numerical Analysis, Optimization etc.
- Overall grade A in NYU Courant's Written Qualification Exam, August 2021

**Peking University (PKU), School of Electrical Engineering and Computer Science** Beijing, China  
*Bachelor in Data Science and Big Data Technology (IT Finance); GPA: 3.57/4.0* Sep 2016 – Jul 2020

- **Relevant Coursework:** Fundamentals in Mathematics, Computer Science and Economics

## HONORS AND AWARDS

---

- UCSB Amazon Fellowship (Top 4 of the year) 2022
- Alibaba Global Mathematics Competition (Top 0.5%) 2022
- NYU GSAS Students for the Pathways to the PhD Program (Top 5) 2021
- PKU Academic Excellence Award (Top 5%) 2018 & 2019
- PKU Scholarship for Outstanding Undergraduates (Top 5) 2018

## THESIS AND PUBLICATIONS

---

**Master's Thesis | NYU** Sep 2021 - May 2022

**Title: Detecting Boolean Asymmetric Relationships with a Loop Counting Technique and its Implications for Analyzing Heterogeneity within Gene Expression Datasets**

Advisor: Aaditya Rangan, *Associate Professor of NYU Courant*

- Make use of loop counting algorithm to extract "Boolean Asymmetric Relationship"
- Conduct statistical tests to distinguish cells based on the extracted information
- Conduct gene enrichment analysis to compare with existing biological results

**Bachelor's Thesis | PKU** Jan 2020 – Jun 2020

**Title: Approximation Algorithms and PTAS of the Minimum Dominating Set and the 3-Path Vertex Cover Problem on Unit Disk Graph**

Advisor: Jianhua Tu, *Professor of Beijing Technology and Business University, Associate Professor of Beijing University of Chemical Technology (former position)*

- Learn to make use of shifting strategy and geometric properties in approximation schemes
- Generalize the strategy to design PTAS and approximation algorithms for a more general problem setting
- Analyze the performance of the designed algorithms

## ACADEMIC ACTIVITIES

---

- **PIMS-CRM, Summer School in Probability** | UBC, Vancouver, Canada May 2022 - Jun 2022
- **DURF(Deans' Undergraduate Research Fund) Project in Percolation Theory** | NYU Shanghai May 2019 - Dec 2019

Advisor: Leonardo T. Rolla, *Associate Professor of Argentina Research Council, Visiting Assistant Professor of NYU Shanghai (former position)*

- Do some readings based on Grimmett's book *Percolation*
- Construct of a website for stochastic model simulations, view at:  
<http://mate.dm.uba.ar/~leorolla/simulations/>

## WORKING EXPERIENCES

---

- **TA of Intro to Math Finance (PSTAT 170)** | UCSB Sep 2022 - Dec 2022
- **Recitation Leader (TA) of Algebra and Calculus (MATH-UA 009)** | NYU Jan 2022 - May 2022
- **Grader of Numerical Analysis (MATH-UA 252)** | NYU Sep 2021 - Dec 2021
- **Grader of Algebra (MATH-UA 343)** | NYU Sep 2020 - May 2021

## SKILLS

---

- **Programming Skills:** Matlab, Python, MySQL, Teradata, C++, C, Javascript, HTML, SPSS, R, STATA
- **Data Visualization Skills:** Tableau
- **SOA** (Society of Actuaries) Probability, Financial Mathematics Test (with grade 10/10)

## OTHERS

---

- **Math Tutor for Chinese College Entrance Exam** | Shanghai, China Jun 2020 - May 2021
- **Volunteer Teacher** | Hong Village, Anhui Province, China Oct 2015 - Nov 2015