HAOSHENG ZHOU

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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 (Algorithms) 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*

- Made use of loop counting algorithm to extract "Boolean Asymmetric Relationship"

- Conducted statistical tests to distinguish cells based on the extracted information

- Conducted 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)*

- Learnt to make use of shifting strategy and geometric properties in approximation schemes

- Generalized the strategy to design PTAS and approximation algorithms for a more general problem setting

- Analyzed 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)*

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

WORKING EXPERIENCES

- **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:**

  - Familiarity and multiple project experiences in LaTeX, Matlab, C++ & C (system-level coding), Javascript & HTML (webpage design), STATA (econometrics)
  - MySQL & Teradata (exposure to real company datasets of Dognition & Dillard's)
  - Tableau (refer to https://public.tableau.com/app/profile/haosheng.zhou#! for dashboards I have made)
  - Python (crawler, numpy, panda etc.)
  - Experienced in SPSS, R

- **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