



Vicky R. Zhu

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EDUCATION

University of Notre Dame 2018 - present
GPA: 3.96/4.0

- M.S. Applied and Computational Mathematics and Statistics Spring 2020
- Ph.D. Candidate in Applied and Computational Mathematics and Statistics present
Advisor: Prof. Robert Rosenbaum
Research interests: Neuron dynamics, Recurrent Neuronal Network(RNN) for machine learning.

University of California Berkeley 2015 - 2018
GPA: 3.72/4.0 (Cum Laude)

- B.A. in Mathematics Summer 2018
- B.A. in Statistics Summer 2018
–exchange semester: University of Melbourne, Australia Spring 2018

Pasadena City College 2013 - 2015
GPA: 4.0/4.0 (Summa Cum Laude)

- A.A. in Natural Science Summer 2015
–study abroad semester: University of Oxford, U.K. Spring 2015

PUBLICATION

Journal

- Baker. C., **Zhu. V.**, & Rosenbaum, R. Nonlinear stimulus representations in neural circuits with approximate excitatory-inhibitory balance. *PLoS Computational Biology*(In Press), 2020
- Otto, P., Savoie. B., Wright. A., & **Zhu. R.**, Mixing Time of the Generalized Rooks Walk. *Mathematics Magazine*(Resubmit), 2019

Conference Proceeding

- Desgrottes. M., Senger, S. Soukup. D., & **Zhu. R.**, A Generalized Framework for Studying Finite Rainbow Configuration. *Combinatorial and Additive Number Theory(CANT) conference*, 2018

PRESENTATIONS & CONFERENCE

Invited Talk

- *Rainbow Configuration*. Nebraska Conference for Undergraduate Women in Mathematics(NCUWM), Lincoln, NE, Feb. 2018
- *Frame Geometry*. Missouri State University, Springfield, MO. July, 2017
- *Mixing Time of the Generalized Rooks Walk*. Northern California Undergraduate Conference, Sonoma, CA. Mar. 2017
- *Mixing Time of Rooks' Walk*. Joint Mathematics Meeting(JMM), Atlanta, GA, Jan. 2017
- *Prediction of Oscar Best Picture Award*. Miller Scholar Meeting, Berkeley, CA. Aug. 2016

Poster Presentation

- *A Nonlinear stimulus representations in neural circuits with approximate excitatory-inhibitory balance*. Society for Neuroscience(sfn) Meeting, Chicago, IL. Oct. 2019
- *Mixing Time of Markov Chain with the application on Rooks' Walk*. University of California, Berkeley, CA. Apr. 2017
- *A Generalized Framework for Studying Finite Rainbow Configuration*. Nebraska Conference for Undergraduate Women in Mathematics(NCUWM), Lincoln, NE. Feb. 2017

Conference Attendance

- Computational and Systems Neuroscience(Cosyne) Meeting. Denvor, CO.Feb. 2020

RESEARCH EXPERIENCE

University of Notre Dame, Dept. of ACMS

2018 - present

- *Graduate Reserarch Toward Ph.D.* *Advisor: Prof. Robert Rosenbaum*
–*Recurrent Neuronal Network in Machine learning.*

University of California, Berkeley. Dept. of Mathematics & Statistics

2016 - 2017

- *George Miller A.Scholarship for Undergraduate Research* *Advisor: Prof. David Aldous*
–*Independent research project using varies methods to predict Oscars winning.*
- *Undergraduate Research Apprentice Program(URAP)* *Advisor: Prof. Stefanie Ebeling*
–*Numerically decode number theory cryptograph problems.*

Missouri State University. Dept. of Mathematics and Statistics Summer 2017

- *Research Experiences for Undergraduates(REU)* Advisor: Prof. Steven Senger
 - Participated in algebraic combinatorics questions.

Willamette University. Dept. of Mathematics Summer 2016

- *Research Experiences for Undergraduates(REU)* Advisor: Prof. Peter Otto
 - Participated in mixing time of markov chain research problems.

TEACHING EXPERIENCE

University of Notre Dame Summer 2020
Instructor on Record

- Taught ACMS 10145, undergraduate Intro to Business Statistics I.(Online)

University of Notre Dame 2018 - present
Teaching Assistant

- Held weekly office hours and tutorial sessions, graded assignment and exams.
- undergraduate Artificial Neural Network course. Spring 2020
- undergraduate Computational Neuroscience course. Fall 2019
- undergraduate Intro to Probability course. Spring & Fall 2019
- undergraduate Intro to Business Statistics I. Fall 2018

University of California, Berkeley Summer 2018
Undergraduate Teaching Assistant

- Held weekly office hours and tutorial sessions.
- undergraduate calculus II.
- undergraduate Python programming.

University of California, Berkeley 2016 - 2018
Grader

- Graded weekly assignments for undergraduate courses.
- undergraduate Abstract Algebra course. Summer 2018
- undergraduate Discrete Math course. Fall 2016

Pasadena City College 2014 - 2015
Tutor

- Helped students with their coursework difficulties in learning center.
- college Algebra course. Fall 2015
- college Statistics course. 2014 - 2015

HONORS & AWARDS

Arthur J. Schmitt Leadership Fellowship in Science and Engineering <i>University of Notre Dame, IN.</i>	2018 - present
Schmitt Travel Grant Award <i>University of Notre Dame, IN. (\$250)</i>	Spring 2020
Graduate Student Professional Development Award <i>ACMS, Notre Dame, IN. (\$500)</i>	Spring 2020
Benjamin A. Gilman International Scholarship for traveling <i>The U.S. Department of State's. (\$2500)</i>	2017 - 2018
Carroll Grants <i>Berkeley Educational Opportunity Program, CA. (\$600)</i>	2017 - 2018
AMS Undergraduate Travel Award <i>Joint Mathematics Meetings at Atlanta, GA. (\$550)</i>	Fall 2017
NSF Grant DMS 1559911 Award for REU <i>Missouri State University, Springfield, MO. (\$4000)</i>	Summer 2017
Academic Opportunity Fund Award <i>Berkeley ASUC Academic Affairs for Nebraska Women in Mathematics Conference, CA. (\$200, \$250)</i>	Fall 2016 & 2017
NSF Grant DMS 1460982 Award for REU <i>Willamette University, Salem, OR. (\$4500)</i>	Summer 2016
George A. Miller Scholarship for Undergraduate Research <i>University of California, Berkeley, CA. (\$8000)</i>	2015 - 2017
The Collin Lai and Susan Hum Merit Scholarship for Academic Excellence <i>Los Angeles County office, CA. (\$1000)</i>	Fall 2016
Hixon Teacher preparation Scholarship <i>Pasadena City College, CA. (\$800)</i>	2015 - 2016
Robert Westerbeck Scholarshi <i>Pasadena City College, CA. (\$1500)</i>	Fall 2015
Pacific Asian American Scholarship for Perseverance <i>Pasadena City College, CA. (\$2000)</i>	Spring 2015

LEADERSHIP & VOLUNTEER

University of Notre Dame Pi Day 5k	2019 - 2020
<ul style="list-style-type: none">• Race route organizer<ul style="list-style-type: none">– Organized the race route and ensure safety for all the participants.	
Schmitt Society Concession Stand, Notre Dame, IN	Fall 2019
<ul style="list-style-type: none">• Fund raising committee<ul style="list-style-type: none">– Raised fund up to \$2500 for Schmitt Society.	

AWIS-ND Mentorship Program, Notre Dame, IN 2018 - 2019

- *Mentor*
 - *Mentored two undergraduate women in science each semester in developing their career plans and organized workshop in building LinkedIn networks and CVs.*

Cal Day, Berkeley, CA Spring 2017

- *orientation coordinator*
 - *Orientated incoming students with department information and encourage greater opportunities for underrepresented student group in STEM fields.*

Upward Bound, Monterey Park, CA 2014 - 2015

- *English Phonics Instructor*
 - *Taught new immigrants basic English via phonetic form.*

Sunrise Foundation, San Gabriel, CA. 2013 - present

- *Voiceover and translator*
 - *Translated English to Chinese and hosted cultural events for the local community.*

PROFESSIONAL MEMBERSHIPS

Association for Women in Science 2018 - present

- *Professional Development Committee*
- *ACMS Department Representative*

Schmitt Leadership Society 2018 - present

- *Website designer & developer*

American Mathematics Society 2017 - present

- *Member*

TECHNICAL SKILLS

Proficient: Matlab, Python, R, LaTeX, Excel

Experienced: C/C++, Mathematica, Photoshop, Illustrator