# Susmi Sharma

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## RESEARCH INTERESTS

Developmental Language Disorders, Learning, Language, Cognition, Early Identification, Graph Theory, Computational modeling and machine learning approaches.

## EDUCATION

**University of Texas at Dallas,** Richardson, Texas
- PhD in Speech Language and Hearing Sciences *August 2023 – Present*
- Masters in Applied Cognitive Neuroscience *August 2023 – Present*

**St. John's College,** Santa Fe, New Mexico *May 2021*
- Bachelor of Arts in Liberal Arts

## RELEVANT COURSEWORK

**University of Texas at Dallas,** Richardson, Texas August 2023- Present
Research Methods I and II | Foundations of Human Computer Interaction | Knowledge Mining | Cognitive Computational Neuroscience | Neural Net Mathematics | Cognitive Science | Scientific Writing | Developmental Neurobiology of Language and Cognition | Issues in Brain and Behavioral Sciences

**Coursera** *April 2024, October 2024*
- Python for Data Science, AI and Development
- Introduction to Deep Learning & Neural Networks with Keras

**UC Santa Cruz,** Santa Cruz, California *June 2020 – August 2020*
Beginning Programming in Python | Introduction to Statistical Methods and Reasoning

**St. John's College,** Santa Fe, New Mexico
*Independent Intensive Math Study with Kenneth Wolfe* *August 2018 – December 2019*
Calculus I & II | Vector Calculus | Differential Equations

## PROFESSIONAL EXPERIENCE

**University of Texas at Dallas,** Richardson, Texas
- Teaching Assistant for Normal Language Development (CLDP 3303) *August 2023 – December 2023*
- Teaching Assistant for Communication Sciences (SPAU 3304) *January 2024 – May 2024*
- Teaching Assistant for Special Topics in Language (COMD 7v86) *May 2024 – August 2024*
- Teaching Assistant for Language Acquisition (COMD 6307) *August 2024 – December 2024*

**University of Minnesota, Department of Neuroscience,** Minneapolis, Minnesota
*Research Specialist* at Ghose Lab *November 2021 – December 2022*
- Optimized and estimated parameters of a dynamical systems model to fit LFP data using Kalman Filtering.
- Extended a single channel model to capture spatial dynamics.
- Analyzed the spatial connectivity and dynamics from inferred states of neuronal subpopulations underlying LFP.
- Trained nonhuman primates in the lab to perform challenging visual perception tasks.

**New Mexico Tech, Department of Psychology,** Socorro, New Mexico
*Research Assistant* for Neuroscientist Dr. Taffeta Elliott *June 2021 – August 2021*
(Projects: *Social Identity in STEM Majors Research* and *Social Dominance Preference Test on Female Xenopus*)
- Recorded and edited experimental audio and video materials using Audacity and Premiere Pro.
- Completed literature reviews and prepared survey materials referencing relevant research.
- Verified the accuracy of data entered in video files, preparing documents ready for analysis.
- Learned the elements of electrophysiological recordings using psychophysiology recording platform BIOPAC.

**St. John's College, Science Laboratory,** Santa Fe, New Mexico
*Junior Lab Assistant* *August 2019 – May 2020*
- Demonstrated electromagnetic phenomena to illustrate essential concepts in the major works of modern physics.
- Tutored students in mathematics and physics to ensure their mastery of the essential concepts.

*Freshman Lab Assistant* *August 2018 – May 2019*
- Demonstrated correct dissection practices with chick embryos, sheep's pluck, cow's heart, fish, crabs and cats.
- Prepared chemicals and specimens for weekly labs according to laboratory safety protocols.
- Maintained health of 20 Mexican axolotls (salamanders) by monitoring water temperature and purifying water.

**Santa Fe Institute,** Santa Fe, New Mexico
*Computer Science Intern, Social Polarization Research* *August 2019 – December 2019*
- Analyzed language, geography, and socio-economic status in Twitter data to understand political polarization.
- Used programs in Python and Pandas to plot graphs and identify essential factors that contribute to tribalism.

## POSTER PRESENTATIONS

**ASHA Convention 2024,** Seattle, Washington *December 2024*

- Using Elastic Net Regression to Identify Features of DLD-Specific Deficit Profile in School-Age Children

**Society for Neuroscience 2022**, San Diego, California *November 2022*
- Modeling the role of neuronal subpopulations in establishing spatial temporal patterns of activity across the cortical surface during visual decision making

**The 9th Annual Minnesota Neuromodulation Symposium**, Minneapolis, Minnesota *April 2022*
- Estimating spatial connectivity patterns in the visual cortex using a neural mass model

## HONORS AND AWARDS

**Don Cook Student Leadership Award**, St, John's College, Santa Fe, New Mexico *May 2021*
- Awarded for outstanding leadership in classes.

**Honorable Mention, Junior-Senior Math Challenge**, St. John's College, Santa Fe, New Mexico *May 2021*
- Awarded Best Solution to the 2021 Junior-Senior Mathematical Problem.

## SKILLS

*Computer Skills:* Proficient in MS Office Packages, Outlook, Google Docs, GitHub, and video editing software Adobe Premiere.
C*omputational Skills:* Proficient in Matlab, R, and Python Programming Language.