Brady M. Chisholm

Email: chish071@umn.edu | **Phone:** 612-499-6865 | **Website:** brady-c.cc

Research Interests

My research interests focus on understanding how the brain perceives and interacts with the world. During my time in Dr. Andrew Oxenham's lab, I engaged in auditory perception research, which introduced me to computational neuroscience. My goal is to pursue a Ph.D. that leverages AI, machine learning, and computational methods to model biological systems in humans and animals. I aim to contribute to research that deciphers how neural activity translates into behavior and decision-making.

Education

University of Minnesota, Minneapolis, MN *Sep 2023–exp. Dec 2025*
Bachelor of Science: Psychology, Minor: Computer Science
University Honors Major
- Honors thesis in progress with Dr. Jean-Paul Noel's Neuroscience Lab (expected Dec 2025)
- **Relevant coursework:** Regression and Correlated Data, Calculus I, Biopsychology, Discrete Structures (I.P.)

Gustavus Adolphus College, St. Peter, MN *Sep 2022–May 2023*
- Participated in two semesters of research apprenticeship
- Awarded two semesters of research grant funding
- Men's Varsity Swim & Dive Competitor
- **Relevant coursework:** Attention (seminar), Latin I & II, Statistics 101

Experience

Research Assistant, UMN Neuroscience Department *Jan 2025–Present*
Dr. Jean-Paul Noel's Cognitive and Systems Neuroscience Laboratory
- Decoding neural activity and decision-making in mice

Research Assistant, UMN Psychology Department *Dec 2023–Present*
Dr. Andrew Oxenham's Auditory Perception and Cognition Laboratory
- Data collection: EEG, audiograms
- Statistical analysis: GAM, GCA, ICA, linear regression, ANOVA
- Various independent projects

Research Assistant, UMN Ecology, Evolution, and Behavior *Jun 2024–Aug 2024*
Dr. Mark Bee's Animal Communication Laboratory
- Seasonal assistant for *Hyla chrysoscelis* and *Hyla versicolor* research
- Animal handling, strict experiment protocols, exploratory statistical analysis
- Assisted in craniotomies and brain sample extraction

Grants and Awards

Career Grant Monies Awarded: $5,000

Undergraduate Research Opportunities Project Grant *May 2024*
- $2,100 research grant for *Analysis of Pupillometry Data* with Juraj Mesik

Dean's First-Year Research and Academics Scholarship *Jan 2024*
- $900 scholarship for research with Dr. Oxenham
- Assisted in EEG and pupillometry data analysis

Presidential Research Grant, Gustavus Adolphus College *May 2023*
- $1,500 summer research grant

Publications and Presentations

Publications

1. Brady M. Chisholm, Juraj Mesik. *An Analysis of Pupillometry Data in a Speech Paradigm.* Nov 2024.

Posters and Presentations

2. Registered poster presenter for ASA 2025: *Analysis of Pupillometric Fatigue in Listening Effort*
3. Brady M. Chisholm, Lauren Hecht, *Entomophobic Responses and the Rubber Hand Illusion*, Spring Research Day, Gustavus Adolphus College, May 2023

Professional Membership and Service

Journal Reviewer *Minnesota Undergraduate Research & Academic Journal (2025)*
Psi Chi International Honor Society *Winner, R Data Science Competition (Oct 2024)*
Gustavus Adolphus College *Presidents Honor Research Award (May 2023)*
Eagle Scout, Boy Scouts of America *Nov 2021*

Projects

A GAM Analysis of Pupillometry Data *2024*
- Fatigue effects in pupillometry data modeled using GAM

The CodeR Sessions *2024–Present*
- Increasing accessibility for R and data science education
- Project website: brady-c.cc

Research Skills and Technologies

Research Skills: EEG data collection, CAD, animal handling, audiograms, chemical handling
Technology: MATLAB, Python, R, HTML, Git, GitHub