AMBER DAY

Welch 5.216, 105 E 24th St D9800 Austin, TX 78705

🌐 Personal Website 📞 (512)608-8192 ✉ amberjouleday@gmail.com 🔗 107846121 ⦿ AmberJouleDay

RESEARCH INTERESTS

Statistics and Data Sciences
- Deep Learning, Time Series Analysis, Complex-Valued Neural Networks, Signal Denoising, Classification, Bayesian Optimization, Bayesian Active Learning, Bayesian Neural Networks, Applications in Physics

RESEARCH EXPERIENCE

Complex-Valued Signal Denoising and Bayesian Optimization for Detection of Synthetic Opioids
with Natalie Klein (Los Alamos National Laboratory)
- *Current:* Working on developing/applying machine learning and statistical tools for signal detection and for denoising complex-valued time series data. Using Bayesian optimization to inform physics experiments. Running jobs on the Darwin cluster.

Deep Learning with Sinead Williamson (UT Austin)
- *Current:* Working on developing deep learning models for physics applications using PyTorch.

Bayesian Sparse Functional Graphical Models with Abhra Sarkar (UT Austin)
- Worked on developing an algorithm to estimate the edges in functional graphical models.

Genome-Wide Association Study (GWAS) with Arbel Harpak (UT Austin)
- Compared single nucleotide polymorphism (SNP) effect sizes on educational attainment. Learned the basics of running jobs on Texas Advanced Computing Center (TACC).

Prime Numbers with Gabriel Prajitura (SUNY Brockport)
- Compared differences of consecutive prime numbers.

PUBLICATIONS

Natalie Klein, **Amber J. Day**, Harris Mason, Michael W. Malone, Sinead A. Williamson. Denoising Neural Networks for Nuclear Resonance Spectroscopy. *Submitted to ICASSP 2023.*

PRESENTATIONS

Detecting Synthetic Opioids with NQR Spectroscopy and Complex-Valued Signal Denoising - Los Alamos National Laboratory Student Symposium, August 2022

POSTER SESSIONS

WiML Workshop @ NeurIPS - Detecting Synthetic Opioids with NQR Spectroscopy and Complex-Valued Signal Denoising, November 2022

MAA Seaway Conference - Comparing Differences of Consecutive Prime Numbers, April 2019

SUNY Brockport Scholars Day - Comparing Differences of Consecutive Prime Numbers, April 2019

EDUCATION

University of Texas at Austin	**August 2020 – present**
Statistics and Data Sciences, PhD - **GPA - 3.97**	*Austin, Texas*
The College at Brockport	**August 2018 – August 2020**
Mathematics, MA - **GPA - 4.00**	*Brockport, New York*
University of Rochester	**May 2016 – August 2017**
Mathematics Education, MS - **GPA - 3.97**	*Rochester, New York*
Texas State University	**January 2014 – May 2016**
Mathematics, BS - **GPA - 4.00**	*San Marcos, Texas*
Austin Community College	**January 2011 – December 2013**
Mathematics, AS - **GPA - 3.66**	*Austin, Texas*

RELEVANT EXPERIENCE
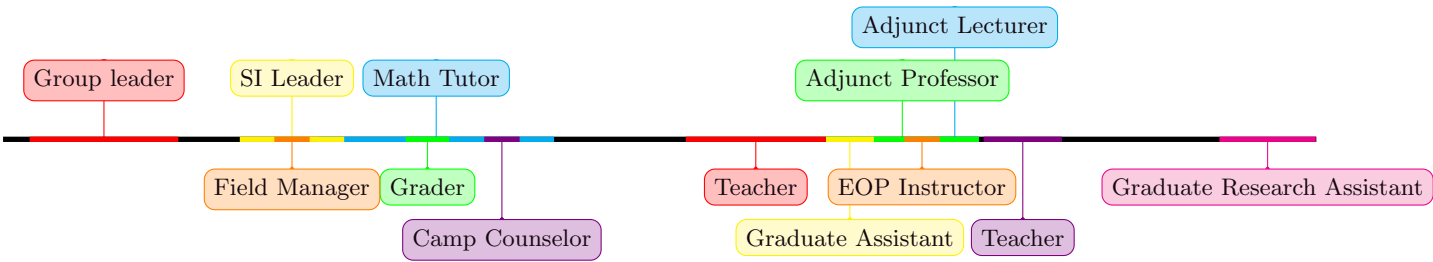
Graduate Research Assistant (GRA)   **Los Alamos National Laboratory**
May 2022 – Present   *Remote*
- Conduct machine learning research in the Statistical Sciences Group.

Teacher   **Rochester City School District**
February 2020 – August 2020   *Rochester, NY*
- Instruct high school students in algebra and geometry.

Adjunct Lecturer   **SUNY Brockport**
August 2019-January 2020   *Brockport, NY*
- Instruct students in business calculus.

Adjunct Professor   **Monroe Community College**
August 2018-January 2020   *Brighton, NY*
- Instruct students in developmental mathematics.

Graduate Assistant   **SUNY Brockport**
August 2018-January 2020   *Brockport, NY*
- Tutor Mathematics for the Living Learning Communities program.

Educational Opportunity Program (EOP) Instructor   **Monroe Community College**
Summer 2019   *Brighton, NY*
- Teach college survival skills to pre-freshman in summer bridge program.

Teacher   **Rochester City School District**
April 2017-August-2018   *Rochester, NY*
- Instruct 7th and 8th grade mathematics and science.

Camp Counselor   **Texas State University**
Summer 2015   *San Marcos, TX*
- Help campers to deepen their understanding of and love for mathematics.

Mathematics Tutor   **Austin Community College**
October 2013-December 2015   *Austin, TX*
- Tutor mathematics.

Grader   **Texas State University**
August 2014-December 2014   *San Marcos, TX*
- Grade differential equations assignments.

Supplemental Instruction Leader   **Austin Community College**
January 2013-December 2013   *Austin, TX*
- Organize and hold group study sessions for pre-algebra.

Field Manager   **Grassroots Campaigns**
Summer 2013   *Austin, TX*
- Recruit, train, and manage a team of activists.

Group Leader   **Extend-A-Care**
January 2012-June 2012   *Austin, TX*
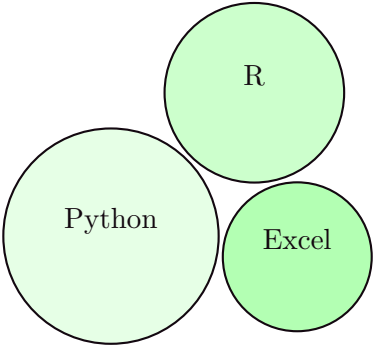- Supervise elementary students in after-school program.

AWARDS

UT Austin: Dean's Mentoring Fellowship – $34,000/year, tuition waiver & benefits – August 2020 & August 2021

UT Austin: Recruiting Bonus – $4,000 – August 2020

SUNY Brockport: Graduate Assistantship – $15,500 – August 2018

University of Rochester: Warner School Scholarship – $53,000 – May 2016

Texas State University: Emmie Craddock Scholarship – $1,500 – April 2015

Texas State University: Ross and Sarah Wayment Endowed Scholarship – $1,500 – April 2015

Austin Community College: Austin Kiwanis Club Scholarship – $1,000 – August 2011

Austin Community College: Austin Rotary Club Scholarship – $1,200 – August 2011

COURSEWORK
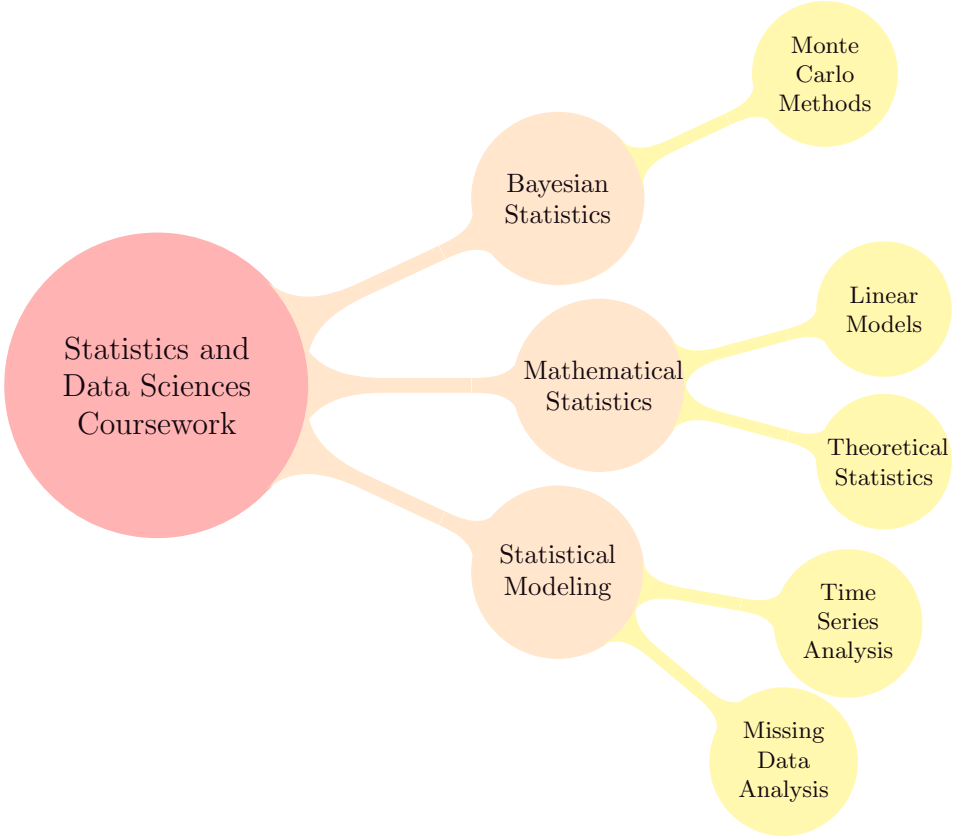
TECHNICAL SKILLS

Statistical & Data Science

Other Software & Tools