Alyssa Anastasi

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Education

University of Wisconsin-Madison Aug. 2025 – May 2027
Master of Science in Biomedical Data Science

University of Illinois Urbana-Champaign Aug. 2021 – May 2025
Bachelor of Science in Statistics and Computer Science, Minor in Public Health *3.87/4.00*

Research Experience

Undergraduate Research Assistant Jan. 2025 – Present
University of Illinois Urbana-Champaign, PI: Pamela Martinez *Champaign, IL*

- Modeled disease transmission using an age-stratified SIR framework implemented in R for COVID, Flu, & RSV
- Analyzed differences in infection spread and peaks based on targeted vaccination coverage across age groups
- Presented progress in weekly lab meetings with faculty and student collaborators to guide model development

Biomedical Data Science Research Assistant May 2024 – Aug. 2024
University of Wisconsin-Madison, PI: Mark Craven *Madison, WI*

- Integrated multi-source data to apply graph neural networks to predict effects of gene perturbations on expression
- Executed neural network explanation methods to evaluate validity
- Analyzed feature importance and found node features influenced predictions more than graph structure
- Assessed effectiveness of explanation methods identifying stability issues and insights for improvement

Undergraduate Research Experience in Statistics Aug. 2023 – May 2024
University of Illinois Urbana-Champaign, PI: Pamela Martinez *Champaign, IL*

- Conducted comprehensive data cleaning and preprocessing of NetCDF files using R
- Applied generalized linear models to discover key predictors of climate on disease in Bangladesh with 70% accuracy
- Created advanced data visualizations with ggplot2 to communicate trends in climate and rotavirus incidence

Work Experience

Data Science Discovery Teaching Assistant Jun. 2025 – Present
Discovery Partners Institute *Chicago, IL*

- Co-led instruction of 30 high school students in an introductory data science course
- Delivered daily lectures on Python programming, pandas, and introductory statistics & probability
- Continuously enhanced and adapted course materials to ensure student comprehension and engagement

STAT/CS 107 Course Assistant Aug. 2022 – May 2025
University of Illinois Urbana-Champaign *Champaign, IL*

- Recipient of the Spring 2024 Outstanding Computer Science Course Assistant Award
- Assisted lab sections and office hours on data science topics including probability, python, and pandas
- Enhanced team productivity by streamlining homework review workflow through GitHub request management

Quality Analyst Intern May 2023 – Aug. 2023
AbbVie *Waukegan, IL*

- Executed 10 user acceptance testing scripts for novel TIBCO Spotfire dashboard tool
- Established monthly process for regression analysis of stability data using Minitab for new drug product
- Performed statistical analysis of quality data for 12 products using Excel and Minitab
- Achieved a 67% improvement in personal efficiency between first and second quality reports

Skills

Languages: Python, SQL, R, C/C++, HTML/CSS, Java
Frameworks: React, Node.js, Flask
Python Libraries: PyTorch, pandas, NLTK, NumPy, Matplotlib, scikit-learn, Seaborn
R Packages: ggplot2, dplyr, tidyr, caret, deSolve
Tools: Git, Docker, Google Cloud Platform, VS Code, RStudio, Tableau, Jupyter Notebook