Hannah Back

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SUMMARY

Detail-oriented Data Scientist with experience in statistical analysis, federal research, and data visualization. Skilled in Python, R, and SQL. Adept at communicating findings through dashboards, executive summaries, and visual analytics. Passionate about using data to improve operational performance and efficiency.

EDUCATION

University of Iowa—Iowa City, IA **Dec., 2024**

B.S. Data Science

- GPA: 3.6/4.0

EXPERIENCE

Shire Regenerative Farm—Remote **Mar. 2025 – Present**

Contract Data Analyst

- Analyzed farm operations data to support pricing strategy.
- Created interactive dashboard visualizing pricing vs. husbandry methods across U.S. poultry brands.
- Reviewed USDA value-added producer grant for clarity and alignment with funding criteria.

University of Iowa—Iowa City, IA **Aug. 2022 – Jul. 2024**

Research Assistant

- Supported "Iowa Healthy Lakes Initiative" by analyzing environmental data and lake imagery for early algal bloom detection.
- Developed ML algorithms to detect algal blooms via satellite imagery.
- Visualized lake surface color trends using greenness indices and animated time series.

National Institute of Environmental Health Sciences—Durham, NC **May 2023 – Aug. 2023**

Biostatistics Intern

- Analyzed National Toxicology Program datasets in R using logistic regression and spline-based classification.
- Identified model limitations in specific data subsets and recommended alternate screening approaches.
- Drafted findings for internal use by environmental health leadership.

Arizona State University—Tempe, AZ **Jun. 2022 – Aug. 2022**

Research Experience for Undergraduates Program

- Mathematically modeled global climate systems to capture Earth systems relationships and recreate historical trends.
- Simulated methane emission reduction scenarios to evaluate their long-term impacts on global temperatures.
- Published first-author paper in Global Environmental Change-Advances.

TECHNICAL SKILLS

Programming: Python, R, SQL, Java, git

Statistical Tools: SAS, regression analysis, optimization, mathematical modeling, machine & statistical learning (random forests, regularization, clustering, PCA)

Visualization: matplotlib, plotly, ggplot, theory of visualization, excel, arcGIS pro