Alison Kleffner

Curriculum Vitae

✉ *alisonkleffner@creighton.edu*
Github *Linkedin* *alison-kleffner.netlify.app*

Education

2020–2023 **PhD, Statistics**, *University of Nebraska at Lincoln*.
Spatio-temporal modeling, spatial data visualization

2018–2020 : **MS, Statistics**, *University of Nebraska at Lincoln*.

2014–2018 : **B.S. in Applied Mathematics & Economics**, *Rockhurst University*.

Professional Experience

2023–Present **Assistant Professor**, *Department of Mathetmatics*, Creighton University.

Research Experience

University of Nebraska at Lincoln

August 2020 – present ***PhD Thesis: Arctic Sea Ice Feature Detection, User Interface for a Trial Design and Decision Tool for Farmers***.
Detection of ice cracks using movement of an ice sheet and the development of a Nonstationary Spatio-Temporal model for Arctic Sea Ice. Creating an User-Interface for designing trials on a Farmer's field under local conditions and designing an User-Interface to communicate results to farmers.

Advisors : **Dr. Yawen Guan and Dr. Susan VanderPlas**

January 2022 – present ***Graduate Research Assistant***.
Member of the Data Intensive Farm Management (DIFM) Grant (Homepage), funded by the USDA-NRCS. Aims to help farmers implement scientific experiments on their farm and help them increase profits based on these data-driven experiments.

Advisor : **Dr. Susan VanderPlas**

Teaching Experience

Creighton University

Fall 2023 ***Introduction to Data Science***, *Creighton University*, In-person, synchronous.

Fall 2023 ***Probability and Statistics in the Health Sciences***, *Creighton University*, In-person, synchronous.

Spring 2024 ***Statistical Modeling***, *Creighton University*, In-person, synchronous.

Graduate Teaching, Instructor of Record

Spring 2019 ***Introduction to Statistics I***, *University of Nebraska at Lincoln*, In-person, synchronous.
The practical application of statistical thinking to contemporary issues; collection and organization of data; probability distributions; statistical inference; estimation; and hypothesis testing. Mean Evaluation: 3.56/4 (45 Students).

Fall 2019 ***Introduction to Statistics I***, *University of Nebraska at Lincoln*, In-person, synchronous.
Mean Evaluation: 4.61/5 (2 Sections - 78 total students).

Fall 2020 ***Introduction to Statistics I***, *University of Nebraska at Lincoln*, Hybrid, synchronous.
Mean Evaluation: 4.62/5 (94 students).

Fall 2021 ***Introduction to Statistics II***, *University of Nebraska at Lincoln*, In-person, synchronous.
Tests for means/proportions of two independent groups, analysis of variance for completely randomized design, contingency table analysis, correlation, single and multiple linear regression, nonparametric procedures, design of experiments. Mean Evaluation: 5/5 (26 students).

Graduate Teaching, Teaching Assistant

Summer 2021 ***Statistics for High School Teachers***, *University of Nebraska at Lincoln*, Online, asynchronous.
Statistical concepts typically taught in a high school statistics class, including linear regression, two-way tables, sampling distributions, statistical inference for means and proportions, chi-square tests, and inference for regression.

Workshops

January, May 2022 ***A Week with R Workshop***, *Department of Statistics, University of Nebraska at Lincoln*, Hybrid (January), In-person (May), synchronous.
Introduction to R, ggplot2, data management and cleaning, Markdown, and Shiny

June 2022 ***Data Intensive Farm Management Workshop***, *International Conference on Precision Agriculture*, In-person, Minneapolis, MN.
Aided in training workshop for Shiny App developed to create farm trials for a farmer's own field.

Other

August 2021, August, 2022 ***TA Training Assistant***, *Department of Statistics, University of Nebraska at Lincoln*, In-person, synchronous.
New graduate teaching assistants orientation - discussion of class topics, teaching methods, and university policies

August 2016 – May, 2018 ***Mathematics Tutor***, *Aylward-Dunn Learning Center, Rockhurst University*.
Tutor for Pre-Calculus, Calculus I, and Calculus II

Publications

In Progress **Kleffner, A.**, VanderPlas, S., Guan, Y. "A Non-Stationary Spatio-Temporal Model for Sea Ice". Submit To: *Journal of Agricultural, Biological and Environmental Statistics*

In Progress **Kleffner, A.**, Puntel, L., VanderPlas, S. "Redesigning Experimental Plots for Comprehension and Usability". Submit To: *Computers and Electronics in Agriculture*

Contributed Talks

Accepted Wells, B., Dickey, E., Nelson, B., Currier, C., **Kleffner, A.**, Halfar, M. (May 2024). Impact of COVID-19 on the Cultural Transition Towards the Use of Midwives Over Standard Doctors of Medicine.. *ACOG Annual Clinical and Scientific Meeting*, San Francisco, CA

2023 Kleffner, A., VanderPlas, S. (May 2023). Redesigning Yield Map Plots for Comprehension and Usability. *Symposium on Data Science and Statistics*. St. Louis, MO

2022 Kleffner, A., VanderPlas, S, Guan, Y. (August 2022). A Spatio-Temporal Model for Arctic Sea Ice. *Joint Statistical Meetings*. Washington, D.C.

2022 Kleffner, A. (April 2022). Using Python in R with the Reticulate Package and Integration with Shiny. *Iowa State Graphics Group*. Virtual

2022 Kleffner, A. (April 2022). Intro to Shiny and the Reticulate Package. *UNL PhD Seminar*. Lincoln, NE

2021 Kleffner, A. (November 2021). Arctic Sea Ice Feature Detection. *UNL PhD Seminar*. Lincoln, NE

Mentoring

Creighton University

January 2024-Present — Rikhav Thakkar

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January 2024-Present — James Brainard

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Service, Leadership & Awards

Departmental and Institutional Service

August 23-Present — Clare Boothe Luce Professor for Women in STEM

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Service to the Discipline

January 2023 — Judge of the Undergraduate Statistics Project Competition section of the ***USPROC***, which is sponsored by the American Statistical Association (ASA) and the Consortium for Advancement of Undergraduate Statistics Education (CAUSE)

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Professional Memberships

2020 - Present — American Statistical Association

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Skills

Proficient in — R/RStudio, RShiny, RMarkdown, Latex, GitHub

Familiar With — Python, SQL, SAS