Robert Sholl

Data Scientist | Statistician — Bayesian Modeling, Statistical Consulting, AI/LLM Workflows

Ogden, KS (Manhattan area) · Open to remote · github.com/rmshksu · linkedin.com/in/robertmsholl

Professional Summary

Statistics PhD student and data scientist with an MS in Statistics and Data Science and 3+ years of applied consulting experience. Builds Bayesian, survival, spatio-temporal, and regression models for federal, state, and private-sector clients, including the USDA National Bio and Agro-Defense Facility and the Kansas Department of Agriculture. Designs AI agent and LLM workflows that automate research operations. Works independently across multiple concurrent remote and hybrid engagements, and translates complex analyses into clear recommendations for non-technical decision-makers. Background in microbiology and laboratory science brings domain depth in biological, agricultural, and environmental data.

Technical Skills

- **Programming:** R, Python, SQL, SAS, Stan, JAGS, Git/GitHub
- **Statistical Modeling:** Bayesian inference and hierarchical modeling (Stan, JAGS), Bayesian survival analysis, spatio-temporal modeling, linear and generalized regression, ANOVA, experimental design, hypothesis testing, probability and distribution theory
- **Data Science:** Predictive modeling, optimization, data cleaning and wrangling, exploratory data analysis, data visualization, data management
- **AI and Automation:** AI agents, multi-agent systems, LLM workflow automation, prompt engineering, AI adoption training
- **Systems and Tools:** Linux (Ubuntu, Debian, Arch), macOS, Windows Server, web development, open-source collaboration
- **Communication:** Statistical consulting, technical writing, scientific presentations, teaching, cross-functional stakeholder collaboration

Education

PhD, Statistics — Kansas State University, Manhattan, KS · Expected Spring 2028

MS, Statistics and Data Science — Kansas State University, Manhattan, KS · August 2026

BS, Microbiology — Kansas State University, Manhattan, KS · May 2021

Data Science, Research, and Consulting Experience

Statistical Consultant

National Bio and Agro-Defense Facility (USDA) · Manhattan, KS · January 2026 – Present

- Advise scientists at a federal agricultural biosecurity laboratory on novel applications of Bayesian survival analysis.
- Design modeling approaches that produce reliable estimates from small, data-scarce experimental datasets.
- Translate model results and uncertainty into clear guidance for research decisions.

Graduate Research Fellow, Kansas Water Institute

Kansas State University · Manhattan, KS · July 2025 – Present

- Serve as quantitative researcher on joint projects with the Kansas Water Institute, the Kansas Department of Agriculture, and SAS.
- Co-developed (with Dr. Trevor Hefley) a spatio-temporal modeling framework to optimize how funding for Best Management Practices is allocated to control nonpoint source pollution in Kansas water supplies.
- Presented the framework at the 2025 Governor's Conference on the Future of Water in Kansas, placing second runner-up in the graduate poster competition.

AI and Data Consultant

Vero Creative · Manhattan, KS · Summer 2026

- Researched, designed, and built networks of AI agents to automate and accelerate market research for a regional marketing firm.
- Significantly improved the efficiency of the firm's market research operations.

Statistical Consultant

Independent / Kansas State University · Manhattan, KS · August 2024 – Present

- Provide statistical consulting to graduate researchers across disciplines on experimental design, data analysis, and interpretation of results.
- Manage multiple concurrent client engagements independently, from scoping through final deliverables.

Statistical and Data Consultant

BBT Live · Manhattan, KS · 2024 – 2025

- Overhauled data management practices for a local entertainment company.
- Spearheaded the company's website development.
- Applied data analytics to identify and streamline inefficient internal workflows.

AI Implementation Specialist

Cohen-Esrey · Merriam, KS · June 2023 – September 2023

- Analyzed company processes to identify where AI augmentation could improve efficiency.
- Trained employees to use AI tools effectively in their daily workflows.
- Built AI-assisted training modules from scratch for Low-Income Housing Tax Credit (LIHTC) property management.

Teaching Experience

Graduate Teaching Assistant

Kansas State University, Department of Statistics · Manhattan, KS · August 2024 – May 2026

- Taught and supported 4 statistics courses over 4 semesters, from introductory statistics to graduate-level regression.
- Built coursework and lectured on sample statistics, probability, set theory, regression, and distribution theory (STAT 225, Introduction to Statistics, Fall 2024).
- Guest-lectured and assisted graduate students in Regression and Analysis of Variance (STAT 705, Fall 2024).
- Taught Biometrics I (STAT 240, Spring and Fall 2025) and applied regression for biological problems in Biometrics II (STAT 341, Spring 2026).

Additional Professional Experience

Customer Fulfillment / RealPage Support Specialist

Cohen-Esrey · Merriam, KS · September 2022 – September 2023

- One of two customer-facing solutions analysts for the corporate office, supporting bookkeeping and financial management for 80+ properties across the continental U.S.
- Served as system administrator, staff instructor, and client/vendor support for RealPage property management software.
- Resolved and routed escalations and maintained ticketing documentation to meet corporate fulfillment standards.

Screening Chemist

Clinical Reference Laboratory · Lenexa, KS · March 2022 – September 2022

- Ran high-throughput toxicology immunoassay screening and specimen validity testing under strict SOPs and turnaround times.
- Troubleshot QC errors and performed maintenance on a Beckman AU5800 clinical chemistry analyzer.

Lab Technician / Research Assistant

KSU Food Safety and Defense Lab · Manhattan, KS · May 2016 – May 2018

- Performed data acquisition for industry-sponsored food process validation studies alongside seven graduate researchers.
- Maintained BSL-2 and BSL-3-Ag compliance, inventory documentation, and training for undergraduate staff.

Hospitality Management

Heritage Brewpub (Clarendon, VA), Heritage Brewing Co. (Manassas, VA), Tubby's Nightclub (Manhattan, KS) · December 2018 – May 2021

- As General Manager, ran payroll, inventory and supply planning, POS systems, and staff training, and redesigned bar procedures for efficiency.
- Earned Cicerone certification.

Publications, Presentations, and Workshops

- **Poster:** Sholl, R., & Hefley, T. *Spatio-temporal Models for Optimizing Best Management Practices.* 2025 Governor's Conference on the Future of Water in Kansas, November 2025.
- **Workshop:** *Solving Problems with Data* — problem framing, cleaning messy data, choosing analysis tools, and delivering actionable solutions. ASA DataFest, Kansas State University, 2026.
- **Workshop:** *Presenting Ideas as a Data Scientist* — scientific communication across disciplines. ASA DataFest, Kansas State University, 2025.
- **Publication:** Horn, C., Sholl, R., Haskell, D., Hebbar, S., & Zinovyeva, A. (2020). Two new CRISPR-generated alleles in the C. elegans mir-1022 gene. *microPublication Biology*. doi:10.17912/micropub.biology.000233

Awards and Volunteering

- **Second Runner-Up, Graduate Poster Competition** (November 2025): 2025 Governor's Conference on the Future of Water in Kansas.
- **Lolafaye Coyne Scholarship for Summer Research** (2024, 2025, 2026): Awarded three consecutive summers.
- **Open-Source Volunteer, Linux From Scratch** (2021 – 2023): Contributed documentation and quality assurance to a globally distributed open-source project.
- **Eagle Scout, Boy Scouts of America** (May 2015): Planned and led a service project repainting the food science classroom at William J. Palmer High School.