

A Values-Driven Game for Teaching AI Ethics in the Statistics Classroom

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Electronic Conference on Teaching Statistics
June 16, 2026

Today's session

- Project motivation and goals
- Overview of original Viewfinder tool
- Values survey data and workshop
- Viewfinder for Data Science walkthrough

Motivation

- What values do statistics and data science educators and practitioners apply when making decisions about the use of AI in data science and statistics?
- What pedagogical tools are effective for teaching AI ethics in the statistics classroom?

Original Library Viewfinder project team



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Funded by IMLS National Leadership Grant LG-252307

<https://www.imls.gov/grants/awarded/lg-252307-ols-22>

Original Viewfinder development

- Phase 1: Lit review of AI case studies in libraries
 - Phase 2: Recruit original case studies
 - Phase 3: Library practitioner and user workshops
 - Phase 4: Data analysis, tool development, assessment, validation
 - Phase 5: Final tool
- } Develop scenarios

Original Viewfinder website: lib.montana.edu/responsible-ai

Values and Statistics and Data Science Survey Data

Survey population: ASA Section on Statistics and Data Science, Isolated Statisticians, MAA Stat Ed SIGMAA, CAUSE, Montana State Statistics faculty and graduate students

Two sections:

1. List “up to 10 values that are relevant for the use of AI in statistics and data science,” then rank according to importance.
2. Presented with a scenario, then asked to list and rank values again.

Statistics & Data Science Scenarios



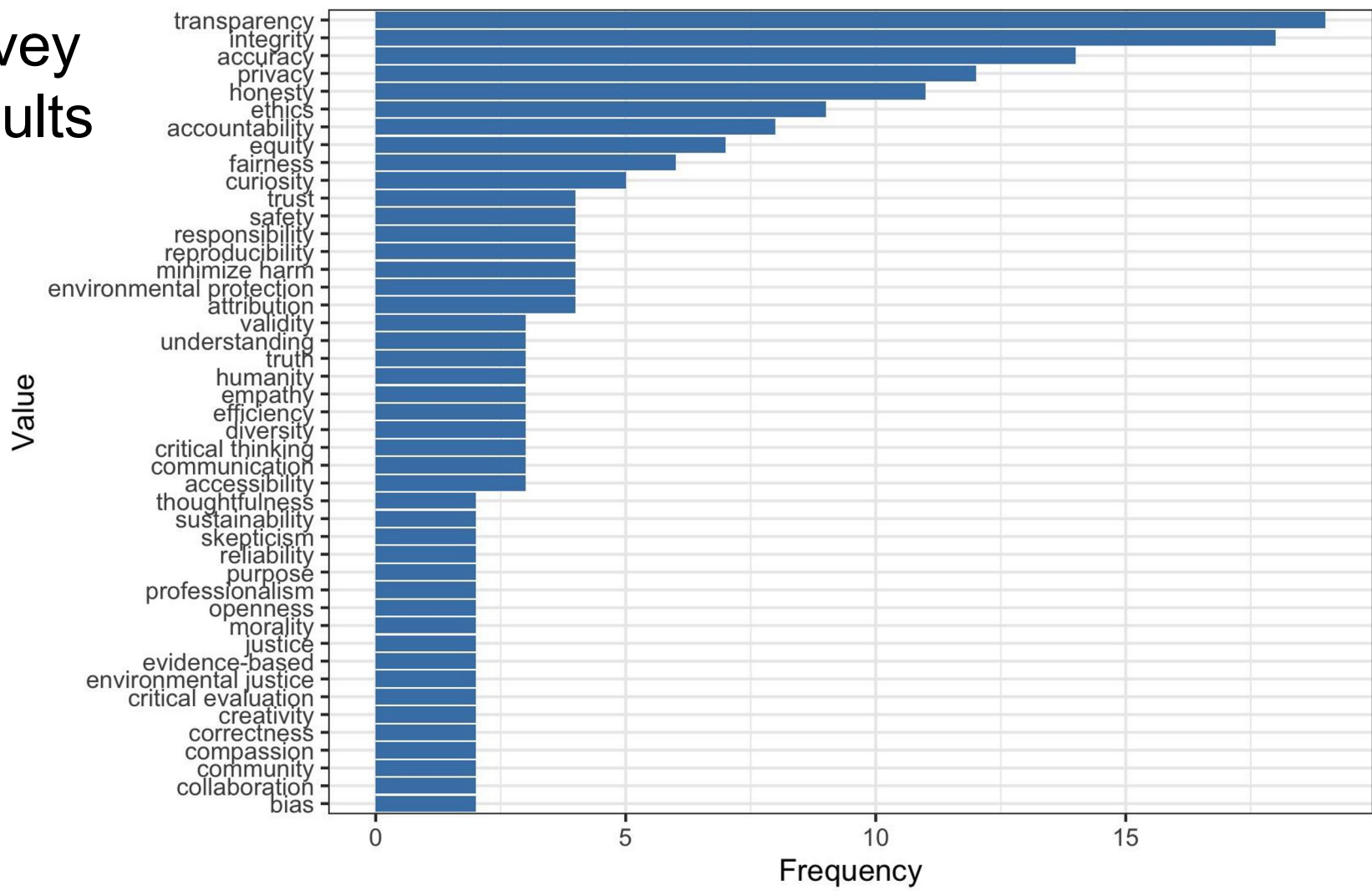
- Data gathering
- Data preprocessing
- Modeling
- Evaluation
- Deployment

Image credit: <https://academic.oup.com/book/41560>

Survey Results



Survey Results



Workshop

- Ten participants - five Statistics faculty; five Statistics graduate students at MSU
- Used the ViewFinder for Data Science tool and provided feedback on the scenarios, values, and stakeholders
- Tool updated based on user feedback



Image credit:

<https://www.montana.edu/pdc/classroomguidebook/classroom-type/teal/teal-classroom-pages/wilson-hall-1119.html>

Viewfinder

A game to facilitate values-driven AI

Viewfinder tasks

The game asks you to:

- Adopt different stakeholder perspectives for an AI implementation scenario.
- Consider different stakeholder values that are relevant to the AI implementation.
- Reflect on actions to uphold relevant values, toward responsible AI implementation.

Demonstration

<https://staceyhancock.github.io/viewfinder-ds/>

Next Steps

Further analysis of survey data:

- Systematic/qualitative analysis of values
- Incorporate value ranks
- Consider how viewing a specific scenario shifts values and ranking

Extend tool to other domains.

Conclusions

Use Viewfinder to...

- consider your values and the values of other stakeholders when using new technology,
- reflect at the beginning of a project, as a mid-point self-assessment, or when looking back to evaluate work as a whole, and
- engage students in ethical reflection around the use of AI in statistics and data science.

Closing thoughts

We hope you will use Viewfinder to examine AI tools and workflows in your statistics and data science classrooms.

If you use it, we'd love to hear about your experience! Contact information is on the final slide.

Thank you!

<https://staceyhancock.github.io/viewfinder-ds/>
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References

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