
Defending AI-Based Content Analysis Results through Explainable Decisions

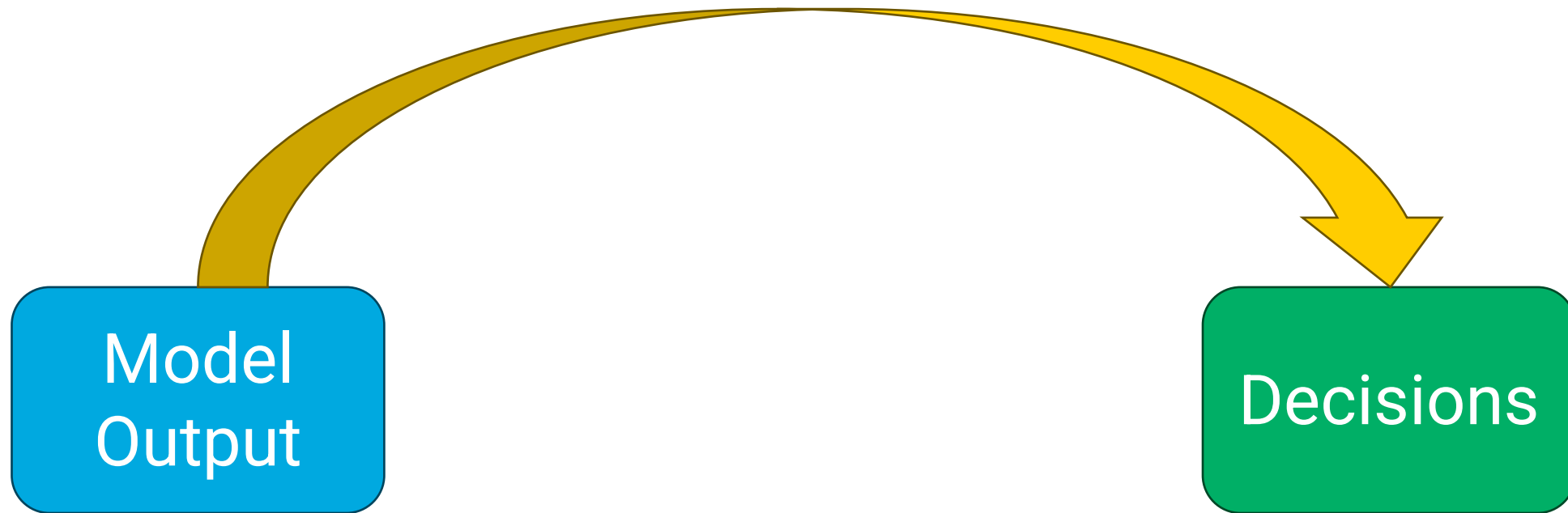
Emily D. Campion, PhD

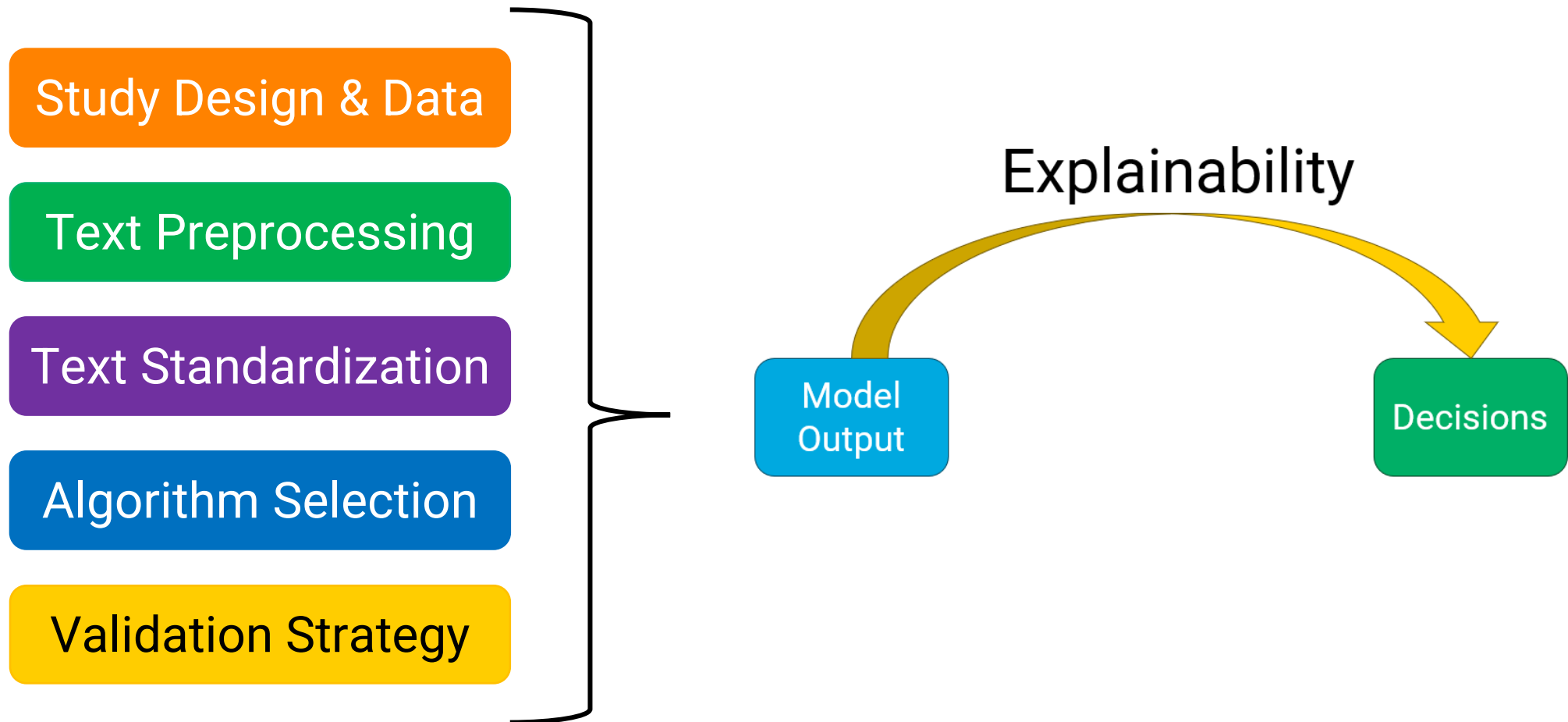
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Defensibility Starts with Explainability

- Explainability (or Explainable AI [XAI]) is “a collection of approaches that seek to make AI systems more interpretable to stakeholders in ways that satisfy their needs to understand the functioning and outputs of AI systems” (Pitcher & Wang, 2026) (see also Song et al., 2024)

Explainability





Study Design & Data

Question	Selection	Entrepreneurship
What text?	Resumes of all applicants	Decks and transcripts of pitches
Why this text?	We want to evaluate the predictive validity of listing hobbies on a resume	We want to evaluate what competencies successfully funded ventures display
How were data collected?	Through an organizational partnership	Through a pitch competition

Text Preprocessing

- What words did you eliminate as “noise?”
- How did you standardize tokens (words)?
- How is your corpus structured (level of analysis)?

Staffing	Organizational Strategy
Eliminated the word “work” because it was too common to add value	• “We need to staff the marketing unit” • “Our staffing model is broken.” • “I love my staff”



Hickman, L., Thapa, S., Tay, L., Cao, M., & Srinivasan, P. (2022). Text preprocessing for text mining in organizational research: Review and recommendations. *Organizational Research Methods*, 25(1), 114-146.

Text Standardization

- How did you transform your text data into a common analytic language?

“Our leader communicates effectively.”

1. Retains as *n*grams (i.e., uni-, bi-, tri-).
2. Transforms *n*grams by weights. TF-IDF (term frequency inverse document frequency) where if “leader” is used by 90% of respondents, it is down-weighted.
3. Embed *n*grams to vectors trained on co-occurrence.

What words are present?

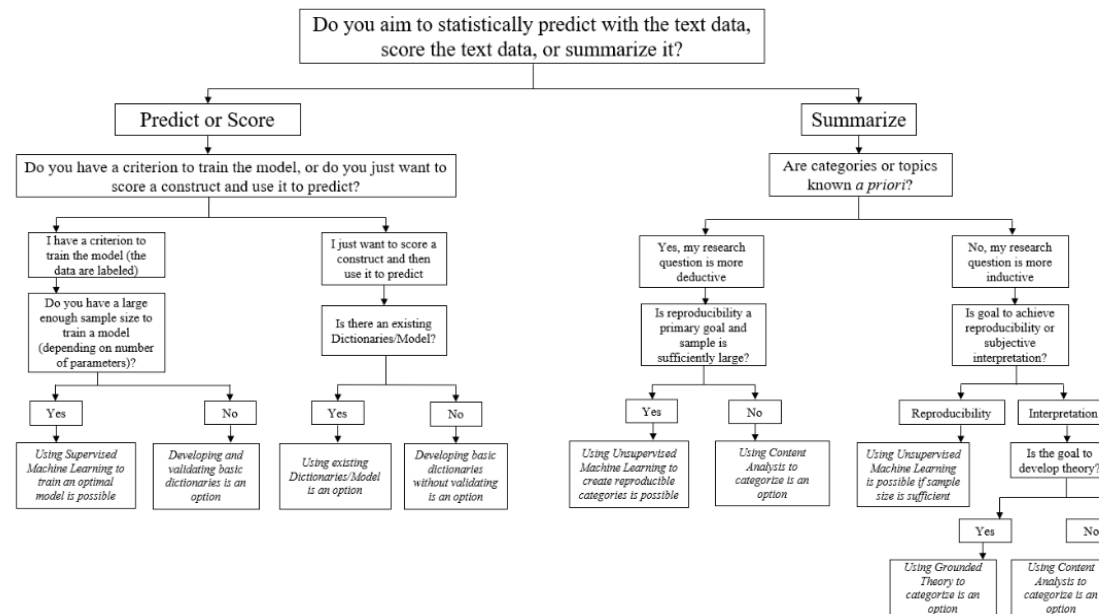
*What words are
distinctively
present?*

*What does the text
mean?*

Algorithm Selection

- What is the purpose of your research?
- Align this back to your Study Design & Data.

Decision-Making Tree Summarizing Sequential Steps in the Process of Determining the Appropriate Text Analysis Method



Campion, E. D., & Campion, M. A. (2025). A review of text analysis in human resource management research: Methodological diversity, constructs identified, and validation best practices. *Human resource management review*, 35(2), 101078.

Necessary Caution

The most advanced algorithms does not mean they are “best.”

- Have they been appropriately vetted by our science?
- There is a prediction-explainability tradeoff.



Campion, E. D., & Tonidandel, S. (2026). Personnel Psychology's 40 Questions Series: Artificial Intelligence. *Personnel Psychology*.

Validation Strategy

- Reconnect to your purpose.
- Does your research question require reliability, content evidence, construct evidence, and/or criterion-related evidence? (Principles for the Validation and Use of Personnel Selection Procedures, 2018)
- Remember that the unitary view of validity says that all evidence bears on validity; no single metric carries all the weight, nor can one bad metric sink your ship.

Final Checklist

- ☐ All decisions are documented.
- ☐ Each decision is justified in the purpose of the research and theory.
- ☐ A red team has tested your logic for your decisions.
- ☐ Humans were and are in the loop, especially when probabilistic tools are used (e.g., GenAI).
- ☐ Data are understood at their most basic level.



Thank you 🙌