Megan Pai

What is your name and affiliation?
Megan Pai, graphic designer

What is your field of research or study?
Researched architecture and art history

Read the introduction to rTisane, making highlights + notes + connections as you go. Explain your process.

N/A

Go back and reread the introduction, trying to answer the question: What is the methodology of the paper? Use the add read feature to make additional highlights + notes + connections with another color. Explain your process during this second read.

“The methodology of the paper is to investigate how to create a more effective tool for analysts to answer research questions and test hypotheses. The authors of the paper developed rTisane, a sample tool that targets supporting accurate conceptual model specification and quality statistical model formulation.”

- During my second read, it was actually helpful to simply review the highlights that I had made in the first read.
- I felt that I had grasped enough of the information in the first round for me to then review and synthesize the main points that I had previously highlighted once more in my second read.

Do you think using this tool helped deepen your understanding of the text? How so?

- Yes, I found this tool extremely helpful in providing continuity between my highlights.
- As a student, I often found it difficult to see the connections between my annotations after having read through a dense piece of literature or research.
- I would review my notes and feel lost in terms of the context in which the note was relevant.
- The linear sidebar in your tool was really effective in helping me to visualize the narrative throughout the introduction.
- It essentially provided me with a “second read” that was highly abbreviated, yet thorough in its in brevity.

Did you encounter any difficulties using our interface?

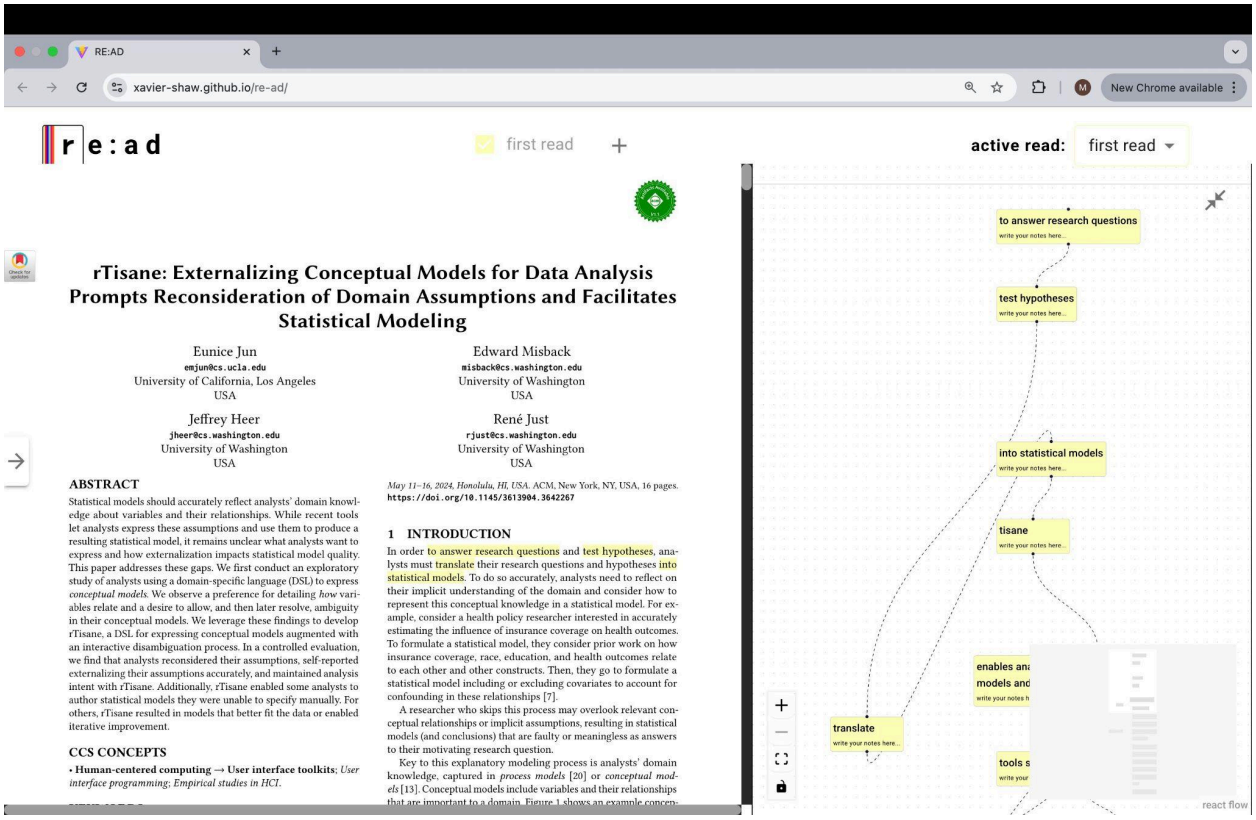
- I encountered a few logistical difficulties in using your interface.
- First, I would have benefitted from the ability to zoom in on the PDF in the left side panel.

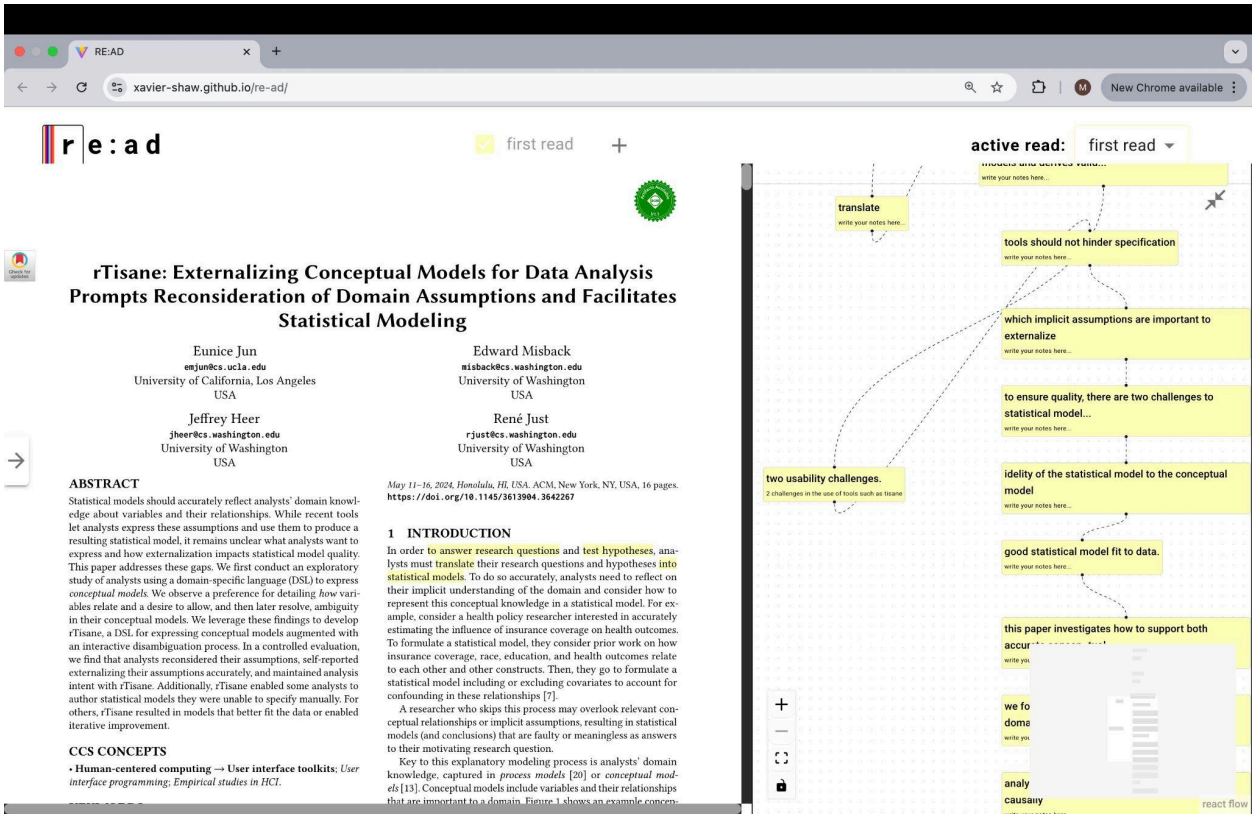
- The text was a bit small, and getting the correct highlight was sometimes a challenge. Lol.
- Second, I might have taken more advantage of the note-taking aspect if it was more readily accessible (I had to scroll a bit to see the box for typing additional notes).
- Third, the ability to move highlights around was a bit glitchy, but I really like the idea.

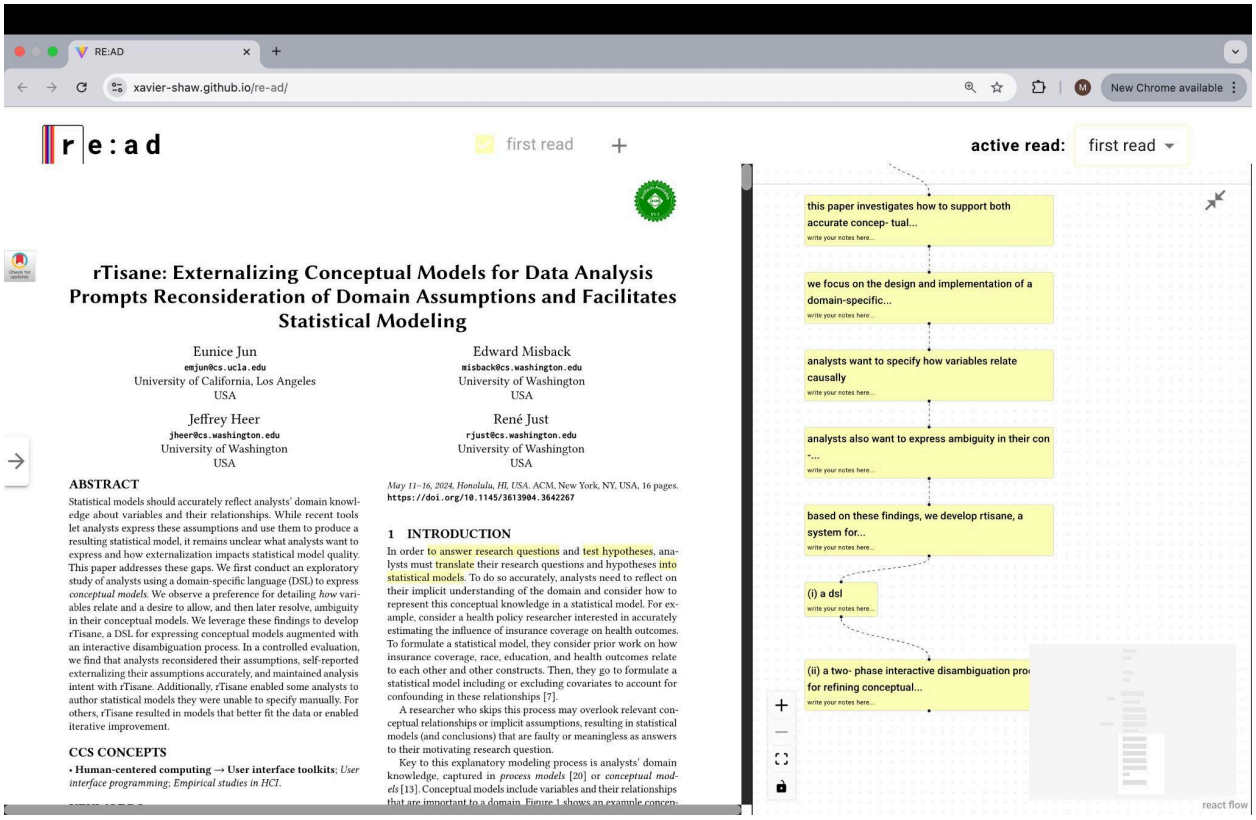
Rate the tool's usefulness and what other features you would want to see.

- 8/10 usefulness
- Maybe it would also be interesting to have the ability to enlarge the right side panel to be full screen, in the case that the user wanted to then rearrange or even annotate their own annotations.
- I will say that the side by side view of the PDF + highlights was very useful, and I also found the proximity of the text excerpt and your notes inside the nodes to be very effective.
- If I had spent more time with this tool, I would have definitely used many of its functions in greater depth — overall, I think this is really smart.

Please take a screenshot of your highlights and graph to send to us.




RE:AD
xavier-shaw.github.io/re-ad/
New Chrome available
r e : a d
first read
active read:
first read
rTisane: Externalizing Conceptual Models for Data Analysis Prompts Reconsideration of Domain Assumptions and Facilitates Statistical Modeling
Eunice Jun
emjun@cs.ucla.edu
University of California, Los Angeles
USA
Edward Misback
misback@cs.washington.edu
University of Washington
USA
Jeffrey Heer
jheer@cs.washington.edu
University of Washington
USA
René Just
rjust@cs.washington.edu
University of Washington
USA
ABSTRACT
Statistical models should accurately reflect analysts' domain knowledge about variables and their relationships. While recent tools let analysts express these assumptions and use them to produce a resulting statistical model, it remains unclear what analysts want to express and how externalization impacts statistical model quality. This paper addresses these gaps. We first conduct an exploratory study of analysts using a domain-specific language (DSL) to express conceptual models. We observe a preference for detailing how variables relate and a desire to allow, and then later resolve, ambiguity in their conceptual models. We leverage these findings to develop rTisane, a DSL for expressing conceptual models augmented with an interactive disambiguation process. In a controlled evaluation, we find that analysts reconsidered their assumptions, self-reported externalizing their assumptions accurately, and maintained analysis intent with rTisane. Additionally, rTisane enabled some analysts to author statistical models they were unable to specify manually. For others, rTisane resulted in models that better fit the data or enabled iterative improvement.
CCS CONCEPTS
• Human-centered computing → User interface toolkits; User interface programming; Empirical studies in HCI.
May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 16 pages.
https://doi.org/10.1145/3613904.3642267
1 INTRODUCTION
In order to answer research questions and test hypotheses, analysts must translate their research questions and hypotheses into statistical models. To do so accurately, analysts need to reflect on their implicit understanding of the domain and consider how to represent this conceptual knowledge in a statistical model. For example, consider a health policy researcher interested in accurately estimating the influence of insurance coverage on health outcomes. To formulate a statistical model, they consider prior work on how insurance coverage, race, education, and health outcomes relate to each other and other constructs. Then, they go to formulate a statistical model including or excluding covariates to account for confounding in these relationships [7].
A researcher who skips this process may overlook relevant conceptual relationships or implicit assumptions, resulting in statistical models (and conclusions) that are faulty or meaningless as answers to their motivating research question.
Key to this explanatory modeling process is analysts' domain knowledge, captured in process models [20] or conceptual models [13]. Conceptual models include variables and their relationships
translate
write your notes here...
tools should not hinder specification
write your notes here...
which implicit assumptions are important to externalize
write your notes here...
to ensure quality, there are two challenges to statistical model...
write your notes here...
idelity of the statistical model to the conceptual model
write your notes here...
good statistical model fit to data.
write your notes here...
this paper investigates how to support both
two usability challenges.
2 challenges in the use of tools such as tisane
react flow


RE:AD
xavier-shaw.github.io/re-ad/
New Chrome available
r e : a d
first read
active read:
first read
rTisane: Externalizing Conceptual Models for Data Analysis Prompts Reconsideration of Domain Assumptions and Facilitates Statistical Modeling
Eunice Jun
emjun@cs.ucla.edu
University of California, Los Angeles
USA
Edward Misback
misback@cs.washington.edu
University of Washington
USA
Jeffrey Heer
jheer@cs.washington.edu
University of Washington
USA
René Just
rjust@cs.washington.edu
University of Washington
USA
ABSTRACT
Statistical models should accurately reflect analysts' domain knowledge about variables and their relationships. While recent tools let analysts express these assumptions and use them to produce a resulting statistical model, it remains unclear what analysts want to express and how externalization impacts statistical model quality. This paper addresses these gaps. We first conduct an exploratory study of analysts using a domain-specific language (DSL) to express conceptual models. We observe a preference for detailing how variables relate and a desire to allow, and then later resolve, ambiguity in their conceptual models. We leverage these findings to develop rTisane, a DSL for expressing conceptual models augmented with an interactive disambiguation process. In a controlled evaluation, we find that analysts reconsidered their assumptions, self-reported externalizing their assumptions accurately, and maintained analysis intent with rTisane. Additionally, rTisane enabled some analysts to author statistical models they were unable to specify manually. For others, rTisane resulted in models that better fit the data or enabled iterative improvement.
CCS CONCEPTS
• Human-centered computing → User interface toolkits; User interface programming; Empirical studies in HCI.
May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 16 pages.
https://doi.org/10.1145/3613904.3642267
1 INTRODUCTION
In order to answer research questions and test hypotheses, analysts must translate their research questions and hypotheses into statistical models. To do so accurately, analysts need to reflect on their implicit understanding of the domain and consider how to represent this conceptual knowledge in a statistical model. For example, consider a health policy researcher interested in accurately estimating the influence of insurance coverage on health outcomes. To formulate a statistical model, they consider prior work on how insurance coverage, race, education, and health outcomes relate to each other and other constructs. Then, they go to formulate a statistical model including or excluding covariates to account for confounding in these relationships [7].
A researcher who skips this process may overlook relevant conceptual relationships or implicit assumptions, resulting in statistical models (and conclusions) that are faulty or meaningless as answers to their motivating research question.
Key to this explanatory modeling process is analysts' domain knowledge, captured in process models [20] or conceptual models [13]. Conceptual models include variables and their relationships
this paper investigates how to support both accurate concep- tual...
write your notes here...
we focus on the design and implementation of a domain-specific...
write your notes here...
analysts want to specify how variables relate causally
write your notes here...
analysts also want to express ambiguity in their con -...
write your notes here...
based on these findings, we develop rtisane, a system for...
write your notes here...
(i) a dsl
write your notes here...
(ii) a two- phase interactive disambiguation pro for refining conceptual...
write your notes here...
react flow