

TEMPORAL LOGIC WITH DR KRISTIN Y. ROZIER

TALKING POINTS

KNOWLEDGE:

1. How does temporal logic differ from logic?
2. What are formal methods?

COMPREHENSION:

3. Why are formal methods an effective way of helping Kristin overcome the challenges of her research?
4. How does being a temporal logician help Kristin in the work that she does?

APPLICATION:

5. Can you think of some reasons why it is important to put solutions in place that are able to cater to changes over time?

ANALYSIS:

6. Having read through the article, can you see how Kristin's interest in puzzles and logic has helped her to achieve the success she has? Can you list some of the ways this interest may have helped?

EVALUATION:

8. What considerations do you think will need to be thought of in the future, with specific reference to technological advancements over the next 20 years? Consider how robots will become a more prominent feature in our lives – why might formal methods and temporal logic be important in this context?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

- As a child, Kristin loved completing matrix puzzles, so we invite you to attempt to solve one yourselves! Puzzle Baron's Logic Puzzles allows you to select your own puzzle parameters (we suggest you start off simple and build up as you develop your skills). There is also a competition timer included, so you can try and be the best out there!

<https://logic.puzzlebaron.com/init.php>

- * How would you explain Kristin's work to a younger audience?

Create a poster or PowerPoint aimed at a year 7/6th grade student in your school.

- Select key quotations from Kristin to include.
- Refer to the real-life examples mentioned in the article.
- Think carefully about how you can use images and simple language to explain complex ideas.

Good luck!

MORE RESOURCES

DEPARTMENT OF AEROSPACE ENGINEERING

Kristin's department has its own website, which includes details on her Laboratory for Temporal Logic. There is a wealth of information, including explainers on aerospace engineering, some of the cutting-edge research Kristin and the team performs, and details on the wide range of areas the department's research covers.

<https://www.aere.iastate.edu/>