

Welcome

Dear participant,

Thank you for participating in our study on model explanations. We are very grateful for your participation and your invaluable insight. Please read this Explanatory Statement in full before moving forward. If you would like further information regarding any aspect of this project, please contact us via the email address provided below.

We are a group of researchers from the [REDACTED] dedicated to improving education through technology. **The goal of this study is to evaluate different explanations to help a student improve their performance in an online course.**

- This survey has been approved by the [REDACTED] under application number [REDACTED]. [REDACTED] reviews research proposals involving human participants to ensure that they are ethically acceptable.

- All the personal information will be kept confidential and anonymized. Only demographic information is being recorded and will only be reported as aggregate in a way that prevents identification of any individual participant. You can freely withdraw at any time and any collected data you provided so far will be destroyed.

- All data will be collected and stored safely and reported in an anonymous form, in accordance with the [REDACTED]

- Only anonymized or aggregated data may be used in follow-up research (subject to ethics approval), and made available to other researchers for further analysis and for verification of the conclusions reached by the research team.

- Only the principal investigator and the aforementioned researchers have access to the original data under strict confidentiality. Results from the project may be published in conference papers and/or journal articles. In any case, no personal data will be published (only aggregated, anonymous and/or anonymized data will be published).


- Personal data of participants will be stored for 5 years from the date of collection. During this time, participants have the right to access

their data and request information about the processing of their personal data. In order to exercise this right, you need to contact the Principal Investigator.

By participating in this survey, you agree that your data can be used for scientific purposes.

In the following study, you will be asked to compare explanations for approximately 20 minutes. Please ensure that you have enough time to finish the study correctly. Unfinished or only partially answered studies will not be considered as finished.

We ask you to approach the questions and exercises with seriousness and to complete them to the best of your ability. We will subsequently check questionnaires for seriousness and will have to discard questionnaires that do not meet this requirement.

Thank you for your help. If you encounter any problem with the survey, or if you want to give extra feedback, or receive additional information, feel free to contact us .

Agreement

I understand the purpose and nature of this task and would like to begin now.

Intro

You are a student taking three online courses (MOOCs): Digital Signal Processing, African Cities, and Elements of Geometry. Since the courses are difficult, often with low passing rates, the teaching team wants to help students who are not doing well to perform better in the course by giving them personalized assistance, and encourage students who are already performing well to continue.

To do this, we have a very good model (over 90% accurate) to predict students' success or failure using various weekly behavior features (such as number of video clicks or how accurately questions are answered on the weekly quizzes). We predict student performance early in the course (before the half-way point) as passing or failing behavior. We use the explanation of the prediction to give students additional, **personalized feedback** to help pass the course.

We want to compare these **personalized feedback explanations** according to several criteria:

- **Usefulness:** This explanation is useful to understand the prediction based on my learning behavior.
- **Trustworthiness:** This explanation lets me judge if I should trust the suggestions.
- **Actionability:** This explanation helps me make a decision on how to improve my learning behavior.
- **Completeness:** This explanation has sufficient detail to understand why the prediction was made based on my learning behavior.
- **Conciseness:** Every detail of this explanation is necessary.

We will first do a practice example.

Example

In the following questions, we will ask you to rank some explanations according to different criteria.

In this example, we ask you to rank Explanation 1 and Explanation 2 according to Criteria 1 and Criteria 2.

Practice Example

Select score 5 (highest) for Explanation 1 on Criteria 1.

Select score 1 (lowest) for Explanation 2 on Criteria 1.

This indicates that Explanation 1 is better than Explanation 2 at Criteria 1.

Select score 3 (middle) for Explanation 1 on Criteria 2.

Select score 3 (middle) for Explanation 2 on Criteria 2.

This indicates Explanation 1 and Explanation 2 are equally performing at Criteria 2.

The Likert scale choices represent the following:

- 1 - Completely disagree
- 2 - Somewhat disagree
- 3 - Neither agree nor disagree

4 - Somewhat agree
5 - Completely agree

	EXP 1					EXP 2				
	1	2	3	4	5	1	2	3	4	5
Criterion 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Criterion 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographics

What is your Prolific ID?

How do you describe yourself?

Male

Female

Non-binary / third gender

Prefer to self-describe

Prefer not to say

How old are you?

Under 18

18-24 years old

25-34 years old

35-44 years old

45-54 years old

55-64 years old

65+ years old

What is the highest level of education you have completed?

Some high school or less

High school diploma or GED

Some college, but no degree

Associates or technical degree
Bachelor's degree
Graduate or professional degree (MA, MS, MBA, PhD, JD, MD, DDS etc.)
Prefer not to say

Have you ever taken an online course (MOOC)?

Yes
No

Have you ever struggled in a course?

Never
Rarely
Sometimes
Often
Always

Student 1a

Digital Signal Processing (Course 1/3, Explanations 1/2)

--- Explanation 1 ---

You've been doing well in the Digital Signal Processing 1 course so far. Your goal is to strengthen your problem-solving skills and improve quiz performance to ensure you pass the course with confidence.

How Am I Doing?

Relevant Causes:

- Competency Alignment in Weeks 4 and 5: You haven't passed any problems in these weeks, which is crucial for aligning with course expectations.
- Quiz Performance in Week 5: Your performance on quizzes was lower than needed.
- Engagement with Problems in Weeks 4 and 5: Your interaction with problem sets has been low.

New Information:

Assuming you know your general engagement levels, it's important to

note that consistent problem-solving and better quiz performance are key areas needing improvement.

Where to Next?

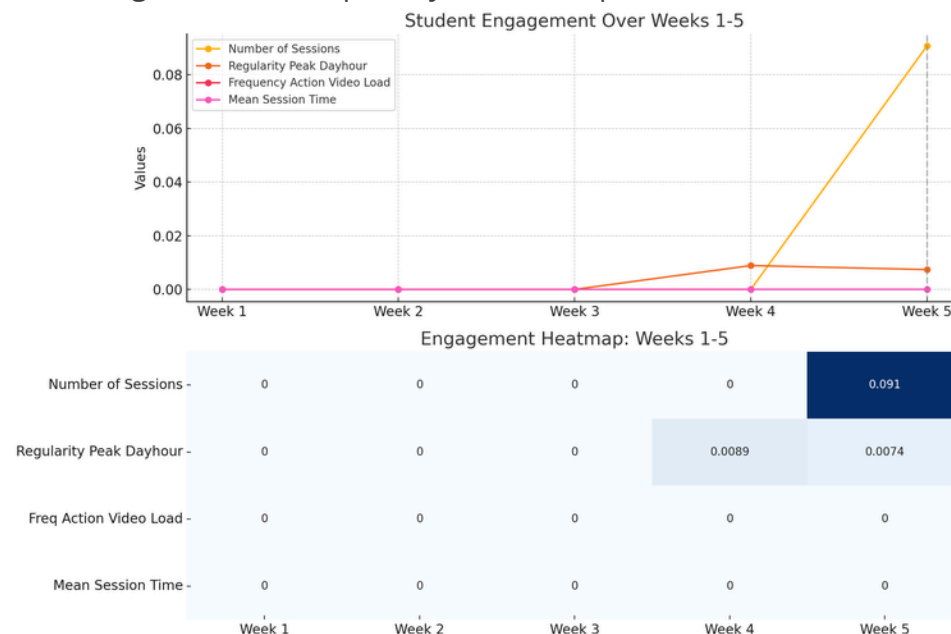
1. Weeks 6 and 7: Focus on Problem-Solving

- Engage actively with problems related to Modulation, Interpolation, Sampling, and Multirate topics. This will help you build competency alignment.

2. Weeks 8 and 9: Enhance Quiz Preparation

- Review materials on DFT, Ideal Filters, Modulation, and Quantization. Aim to improve your quiz scores by practicing with additional problems and seeking help on challenging topics.

By focusing on these areas, you'll be better prepared for the remaining weeks and improve your overall performance.



--- Explanation 2 ---

Feedback Report: Digital Signal Processing 1

Where Am I Going?

Your goal is to successfully pass Digital Signal Processing 1 by mastering the course content and demonstrating your understanding through quizzes and problem-solving activities.

How Am I Doing?

Abnormal Causes:

- **Competency Alignment (Weeks 4 and 5):** You didn't pass any problems in these weeks. This is crucial as solving problems aligns your learning with course expectations.

- **Competency Strength (Week 5):** Your quiz performance was lower than needed, impacting your progress.

Recent Events:

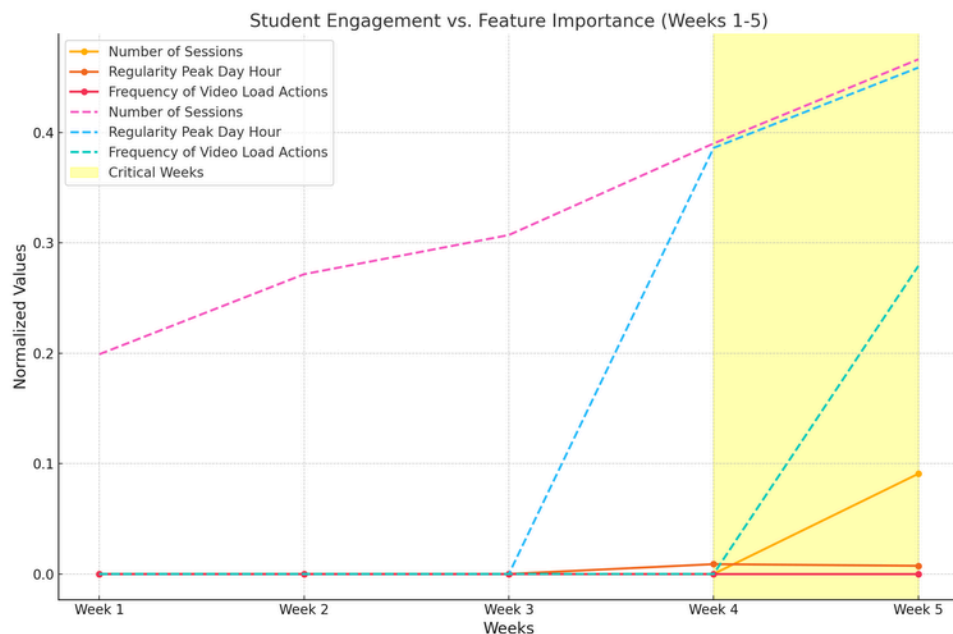
- **Weeks 4 and 5:** Low engagement in problem-solving and quizzes. These weeks are pivotal for understanding key concepts like filter design and discrete Fourier transforms.

Controllable Factors:

- **Problem-Solving:** Increase your interaction with problem sets. Focus on solving more problems to boost your competency alignment.
- **Quiz Preparation:** Improve your quiz performance by reviewing past quizzes and seeking help if needed.

Where to Next?

1. **Week 6 Focus:** Engage deeply with modulation, interpolation, and sampling concepts. Practice problems and quizzes to strengthen your understanding.
2. **Week 7 Preparation:** Start reviewing stochastic signal processing and quantization. Anticipate upcoming quizzes to be better prepared.



--- Explanation 3 ---

This student is predicted to pass the course with likelihood 74.54%. The model's explanation is determined by finding the minimal difference in the feature values that would flip the student's performance prediction. The model found the following features to be the most predictive for this student:

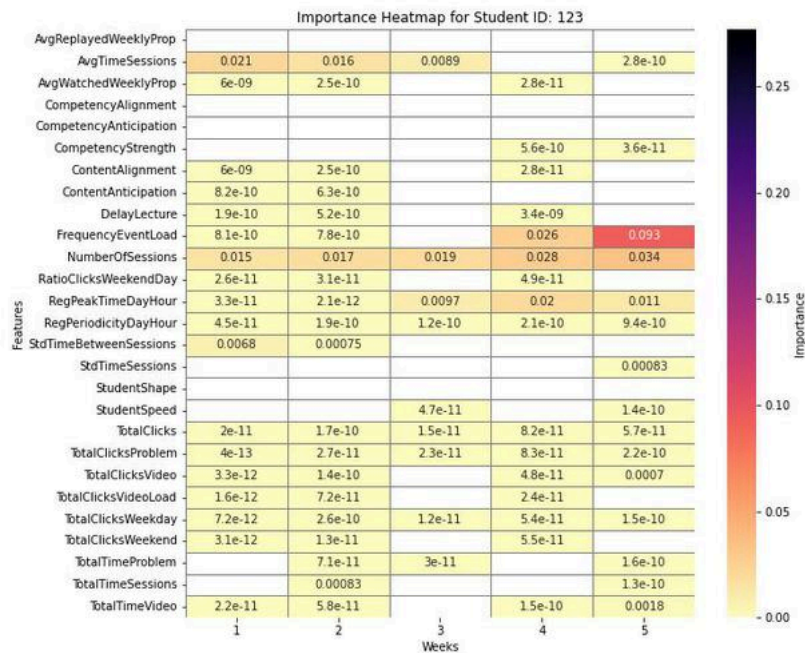
NumberOfSessions: The number of unique online sessions the student has participated in.

AvgTimeSessions: The average of the student's time per session.

FrequencyEventLoad: The number of times a student loaded a video.

RegPeakTimeDayHour: The extent to which students' activities are centered around a particular hour of the day

The full set of feature-weeks found important are described in the plot. Improving on these behaviors could lead to stronger performance in the course.



--- Explanation 4 ---

Student Performance Feedback: Digital Signal Processing 1

Your performance is on track, but there's room for improvement to ensure a strong finish. The goal is to enhance your problem-solving skills and quiz performance in the upcoming weeks.

How Am I Doing?

External Factors:

Your engagement with problems in Weeks 4 and 5 has been low. Solving problems regularly is crucial as it directly aligns with the course expectations and helps reinforce learning.

Internal Relationships:

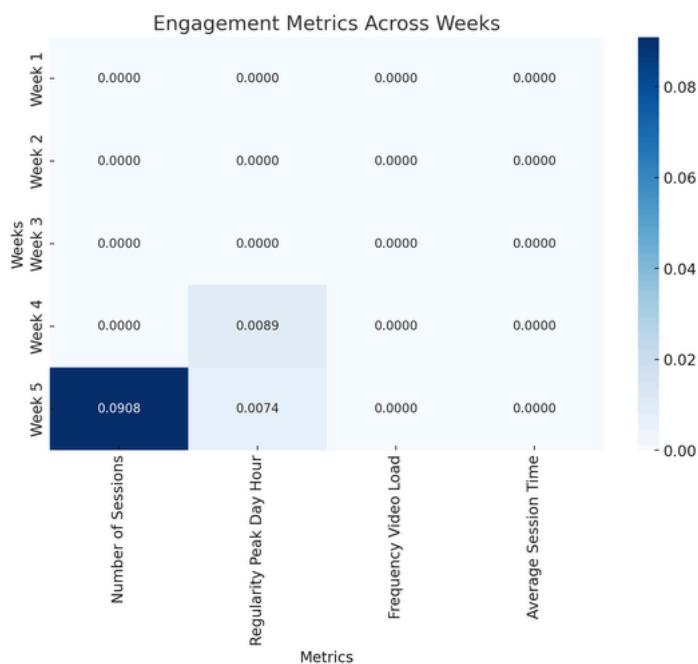
Your competency strength, which measures how well you perform on quizzes, was suboptimal in Week 5. This indicates a need to focus on understanding the material better and improving quiz scores.

Focus on Improvement:

1. **Problem-Solving Engagement:** Increase your interaction with problem sets in the upcoming weeks. This will help you align better with the course content and improve your understanding.
2. **Consistent Study Schedule:** Establish a regular study routine to ensure consistent engagement with the material. This will help in better retention and understanding of the concepts.

Where to Next?

1. **Week 6:** Focus on understanding continuous-time signals and interpolation. This will build on the filter design concepts from Week 5 and prepare you for the complex topics ahead.
2. **Week 7:** Engage deeply with stochastic signal processing and quantization. These topics are foundational for the advanced concepts in Weeks 8 and 9.



Which explanation do you prefer the most?

Why do you prefer this explanation?

What is the main action you would you take in the next week based on your preferred explanation?

- I would improve my regularity of learning on the platform (have a daily or weekly schedule).
- I would watch video lectures immediately when they are released
- I would attempt more problems.
- I would spend more time on the platform.
- I would watch more videos.
- I would engage more heavily with videos (pausing, replaying, rewinding)
- I would practice more for the quiz so I could solve it in fewer attempts.
- I would try to attempt quizzes for the next weeks earlier.
- I would try to solve the quizzes faster.
- I would try to watch videos for the next weeks earlier.

For this action, which weeks of material would you focus on? (Select minimum 1 week and maximum 3 weeks to focus on)

Review Week 1 (Intro, Digital Signals)	Review Week 2 (Digital Signals)	Review Week 3 (Hilbert, Linear Algebra)	Review Week 4 (DFT, DTFT DFS, DTFT: intuition and properties, FFT)	Review Week 5 (Ideal Filters, Filter Design)	Engage in upcoming Week 6 (Modulation, Interpolation & Sampling)	Engage in upcoming Week 7 (Multirate)	Engage in upcoming Week 8 (DFT, DTFT (DFS, Ideal Filters)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you grade each explanation?

A score of 1 is the lowest for each criteria, a score of 5 is the highest for each criteria. You can select multiple explanations for each score.

- **Usefulness:** This explanation is useful to understand the prediction based on my learning behavior.
- **Trustworthiness:** This explanation lets me judge if I should trust the suggestions.
- **Actionability:** This explanation helps me make a decision on how to improve my learning behavior.
- **Completeness:** This explanation has sufficient detail to understand why the prediction was made based on my learning behavior.
- **Conciseness:** Every detail of this explanation is necessary.

	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Usefulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trustworthiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actionability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conciseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student 1b

Digital Signal Processing (Course 1/3, Explanations 2/2)

--- Explanation 1 ---

This student is predicted to pass the course with likelihood 74.54%. The model's explanation is determined by finding the minimal difference in the feature values that would flip the student's performance prediction. The model found the following features to be the most predictive for this student:

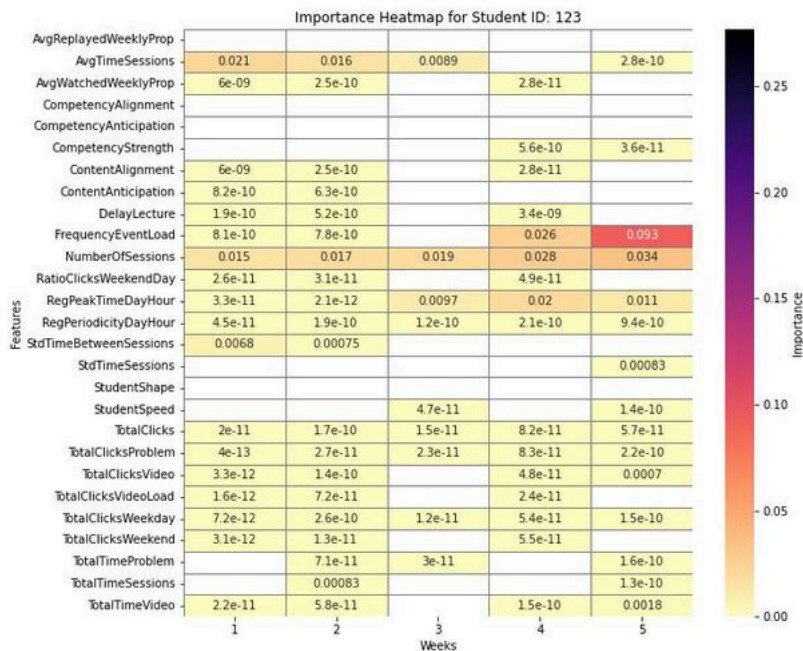
NumberOfSessions: The number of unique online sessions the student has participated in.

AvgTimeSessions: The average of the student's time per session.

FrequencyEventLoad: The number of times a student loaded a video.

RegPeakTimeDayHour: The extent to which students' activities are centered around a particular hour of the day

The full set of feature-weeks found important are described in the plot. Improving on these behaviors could lead to stronger performance in the course.



--- Explanation 2 ---

Student Performance Feedback: Digital Signal Processing 1

Your performance so far suggests you are on track to pass the course, but there are areas that need attention to ensure success.

Where Am I Going?

Your goal is to master the content and skills in Digital Signal Processing 1 and successfully pass the course. This involves understanding digital signals, filters, modulation, and other key topics.

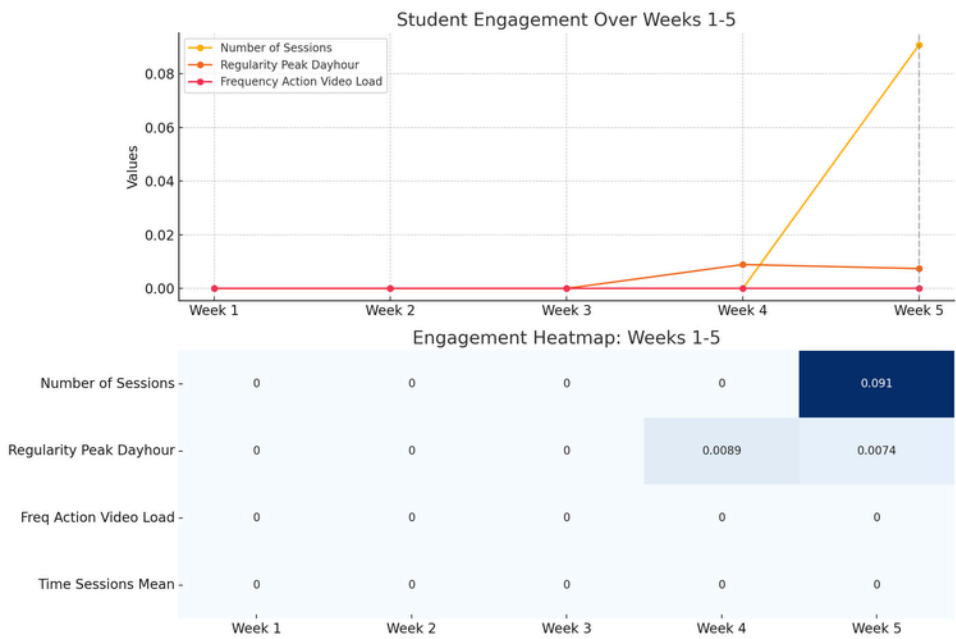
How Am I Doing?

- **Target Event:** In Week 5, you did not pass any problems (competency alignment), which is significant because solving these problems is crucial for mastering the material.
- **Contrast Event:** In contrast, passing problems and engaging more with problem-solving activities would have better aligned your competencies with course requirements.
- **Key Differences:** The main difference is the lack of problem-solving engagement in Week 5. This is important as it highlights a gap in applying theoretical knowledge to practical problems, which is essential for understanding DSP concepts.

Where to Next?

1. **Weeks 6-7:** Focus on solving more problems related to modulation and interpolation. Use Week 6's continuous-time paradigm and Week 7's stochastic signal processing to build a stronger foundation.
2. **Weeks 8-9:** Engage with the upcoming topics on image processing and digital communication systems. This will help you connect earlier

content with practical applications, reinforcing your understanding and preparing you for final assessments.



--- Explanation 3 ---

Student Feedback: Digital Signal Processing 1

Where Am I Going?

You've shown potential in this course, but there are a few areas where improvement is needed. The goal is to strengthen your problem-solving skills and quiz performance to ensure you grasp the essential concepts of Digital Signal Processing.

How Am I Doing?

Necessary Causes:

1. **Competency Alignment (Weeks 4 & 5):** You haven't passed any problems in these weeks, which is crucial for mastering the course content.
2. **Quiz Performance (Week 5):** Your performance on quizzes was below expectations, impacting your overall progress.

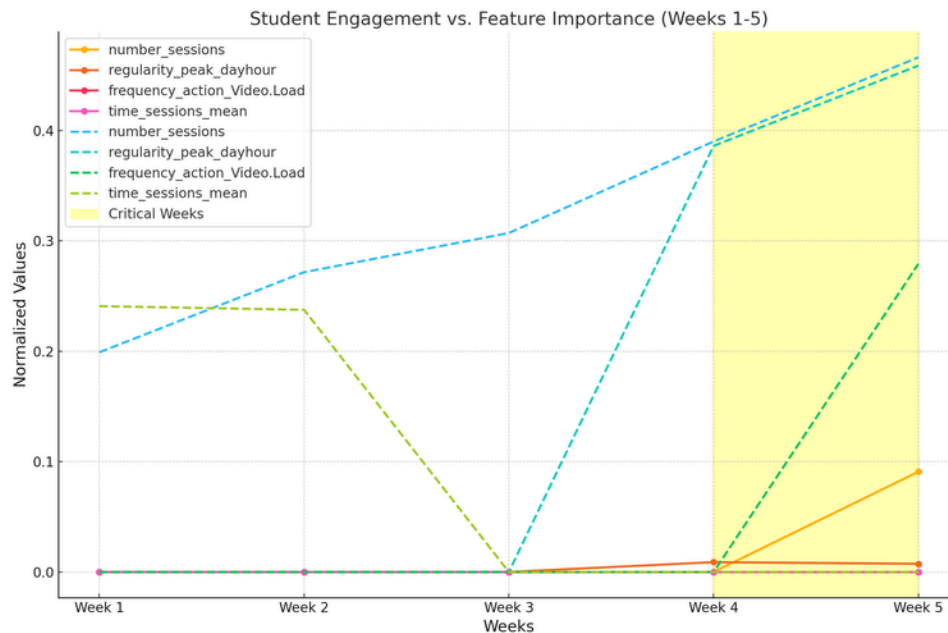
Robust Explanation:

1. **Consistent Engagement:** Your engagement with problem-solving activities has been low, particularly in Weeks 4 and 5. This pattern suggests a need for more consistent practice.
2. **Study Regularity:** The lack of a regular study schedule, especially in Week 5, affects your learning continuity.

Where to Next?

1. **Weeks 6 & 7:** Focus on solving more problems and engaging with the content regularly. This will help you build a stronger foundation for the upcoming topics on Modulation, Interpolation, and Sampling.

2. **Weeks 8 & 9:** Improve your quiz performance by revisiting the topics from Weeks 4 and 5, such as Filter Design and DFT. This will prepare you for the advanced concepts in Digital Communication Systems.



--- Explanation 4 ---

Student Performance Feedback

You are doing well and are on track to pass the Digital Signal Processing 1 course. Your learning goal is to build a strong foundation in digital signal processing concepts and applications.

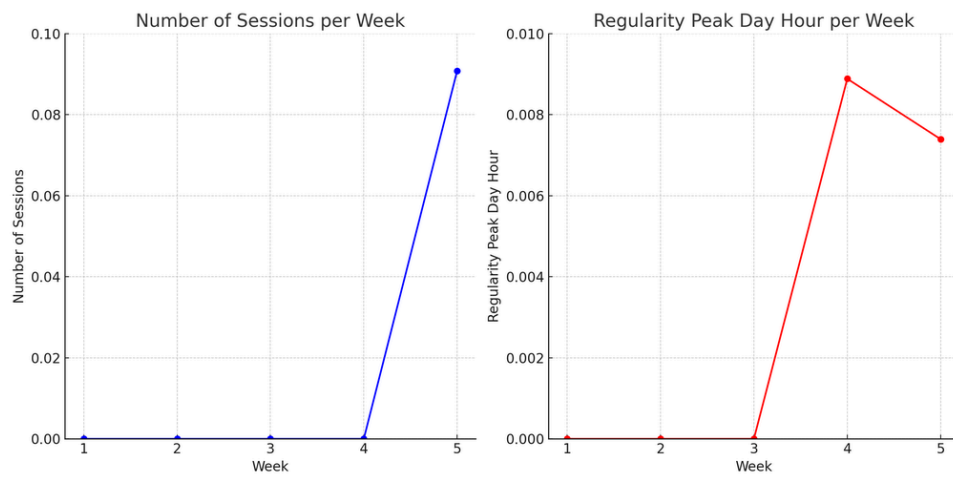
How Am I Doing?

In Weeks 4 and 5, you didn't solve any problems, which is crucial for mastering the material. Your quiz performance in Week 5 wasn't optimal, and you didn't engage with upcoming quizzes in Weeks 2, 3, 4, and 5. However, you showed promise in Week 3 by aiming for high quiz grades, though you didn't achieve them.

Where to Next?

1. **Weeks 6-7:** Focus on solving more problems related to modulation, interpolation, sampling, and multirate signal processing. This will help you align better with course expectations.
2. **Weeks 8-9:** Engage with upcoming content on image processing and digital communication systems. Anticipating and preparing for these topics will improve your readiness and performance.

By following these steps, you'll enhance your understanding and performance in the course. Keep up the good work!



Which explanation do you prefer the most?

Why do you prefer this explanation?

What is the main action you would you take in the next week based on your preferred explanation?

- ☐ I would improve my regularity of learning on the platform (have a daily or weekly schedule).
- ☐ I would watch video lectures immediately when they are released
- ☐ I would attempt more problems.
- ☐ I would spend more time on the platform.
- ☐ I would watch more videos.
- ☐ I would engage more heavily with videos (pausing, replaying, rewinding)
- ☐ I would practice more for the quiz so I could solve it in fewer attempts.
- ☐ I would try to attempt quizzes for the next weeks earlier.
- ☐ I would try to solve the quizzes faster.
- ☐ I would try to watch videos for the next weeks earlier.

For this action, which weeks of material would you focus on? (Select minimum 1 week and maximum 3 weeks to focus on)

Review Week 1 (Intro, Digital Signals)	Review Week 2 (Digital Signals)	Review Week 3 (Hilbert, Linear Algebra)	Review Week 4 (DFT, DTFT DFS, DTFT: intuition and properties, FFT)	Review Week 5 (Ideal Filters, Filter Design)	Engage in upcoming Week 6 (Modulation, Interpolation & Sampling)	Engage in upcoming Week 7 (Multirate)	Engage in upcoming Week 8 (DFT, DTFT (DFS, Ideal Filters))
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you grade each explanation?

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	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Usefulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trustworthiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actionability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conciseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student 2a

African Cities

(Course 2/3, Explanations 1/2)

--- Explanation 1 ---

This student is predicted to fail the course with likelihood 99.4%. The model's explanation is determined by finding the minimal difference in the feature values that would flip the student's performance prediction. The model found the following features to be the most predictive for this student:

DelayLecture: The average delay in viewing video lectures after they are released to students.

ContentAlignment: The number of videos this week that have been watched by the student.

TotalClicksProblem: The number of clicks that a student has made on problems this week.

RegPeriodicityDayHour: The extent to which the hourly pattern of user's activities repeats over days.

NumberOfSessions: The number of unique online sessions the student has participated in.

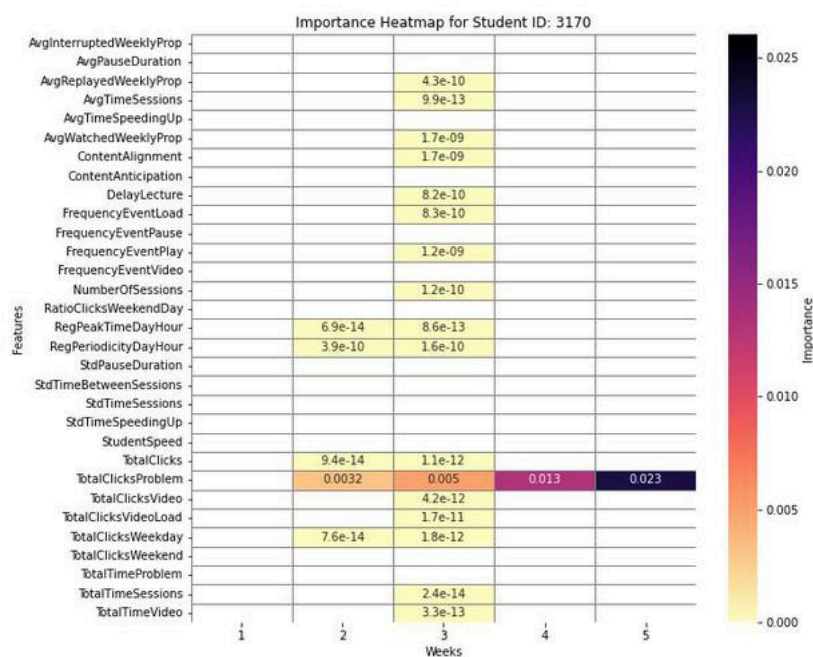
FrequencyVideoPlay: The frequency between every Video.Play action and the following action.

TotalTimeSessions: The sum of the student's time in sessions.

AvgWatchedWeeklyProp: The ratio of videos watched over the number of videos available.

AvgTimeSessions: The average of the student's time per session.

The full set of feature-weeks found important are described in the plot. Improving on these behaviors could lead to stronger performance in the course.



--- Explanation 2 ---

Performance Feedback

Your current performance indicates that you are not on track to pass the course. The goal is to engage more deeply with the course content and activities to improve your understanding and skills in urban planning.

How Am I Doing?

Course Title: Villes africaines I: Introduction a la planification urbaine

Overview: This course explores various aspects of urban development in Africa. Divided into weekly chapters, each week focuses on different topics and skills related to urban planning and development.

WEEK 1-5

Topics Covered:

- Introduction to urban planning, urbanization in Africa, stakes and challenges, globalization, urban sustainable development, urban facilities, public spaces, urban sprawl, and professions of the city.

Explanation Findings:

- Problem-Solving Engagement: You have not engaged with problem-solving activities in Weeks 2, 3, 4, and 5. These activities are crucial for applying what you've learned.

- Study Patterns: Your study habits are inconsistent, with no regular study patterns observed in Weeks 3, 4, and 5.

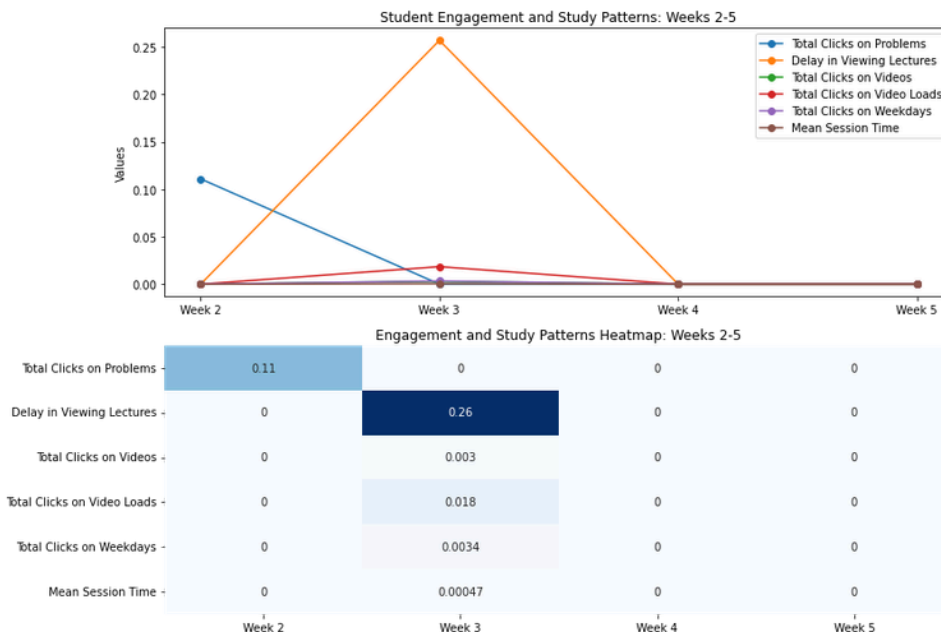
- Content Interaction: You are not watching the course videos or aligning with the weekly content, which is essential for understanding the material.

Where to Next?

1. **Week 6:** Focus on engaging with the problem-solving activities related to "Critical reading" and "The 10 basic principles." This will help you apply the concepts learned so far.

2. **Week 7:** Develop a regular study schedule and make sure to watch the videos on "Tools of urban planning" and "Case study: Ndjamena." This will ensure you are keeping up with the course content and understanding the practical applications.

By following these steps, you can significantly improve your performance and understanding of the course material.



--- Explanation 3 ---

Feedback on Your Course Performance

Your performance in the course so far indicates that there are areas where you need to improve to stay on track with your learning goals.

Where Am I Going?

Your learning goal is to pass the course by engaging actively with the content, completing quizzes, and maintaining consistent study habits.

How Am I Doing?

- *Necessary Causes:* You have not engaged in problem-solving activities or quizzes in the past five weeks. These activities are essential because they help reinforce your understanding and application of the course material.

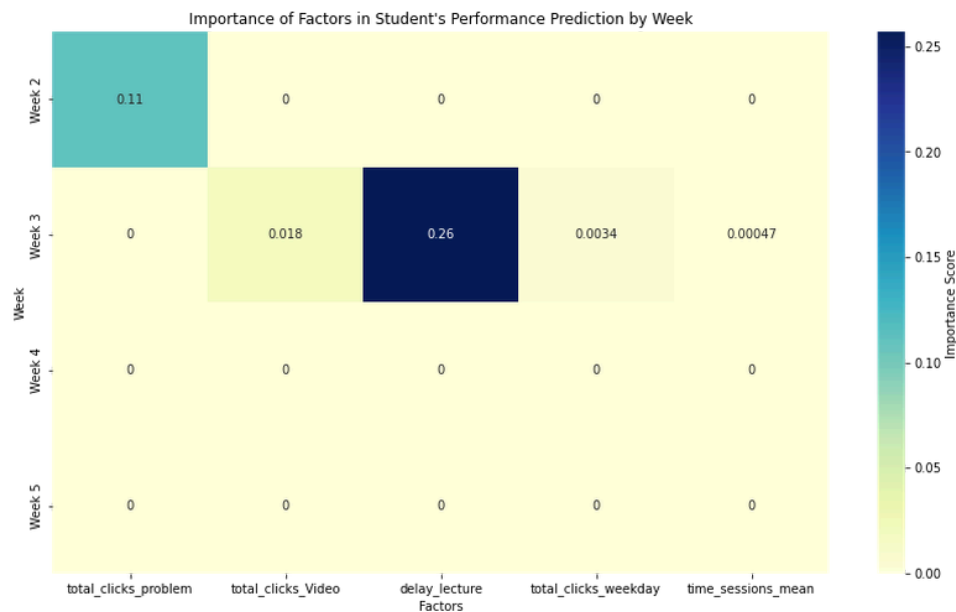
- *Robust Explanation:* Even if other factors were slightly different, the lack of interaction with video lectures and inconsistent study patterns would still negatively impact your performance. Regular engagement and structured study habits are crucial for retaining and understanding the course content.

Where to Next?

1. *Weeks 6-7:* Focus on watching and interacting with video lectures on "Critical reading" and "Tools of urban planning." These weeks are pivotal as they introduce fundamental principles and practical tools.
2. *Weeks 4-5:* Revisit the previous weeks' quizzes and problem-solving activities. Engage actively with topics such as "Urban facilities" and "Informal settlements upgrading" to solidify your understanding and prepare for upcoming content.

By addressing these areas, you can significantly improve your grasp of

the material and your overall performance in the course.



--- Explanation 4 ---

Your performance so far indicates that there is room for improvement to reach our learning goals in this course on urban planning in Africa.

How Am I Doing?

Relevant Causes: Based on your data, there are a few key areas that need attention:

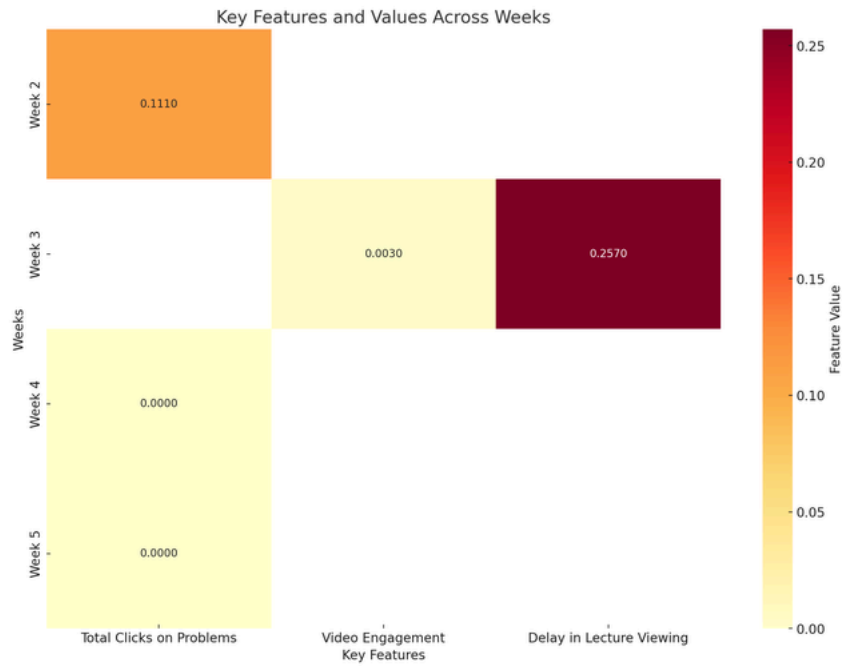
- *Engagement with Problem-Solving Activities:* You've had no interaction with problem-solving tasks in Weeks 2, 3, 4, and 5.
- *Regularity in Study Patterns:* Your study habits have been inconsistent across these weeks.
- *Content Alignment and Anticipation:* You haven't been keeping up with the weekly content or previewing upcoming material.
- *Video Interaction:* You've not engaged with video lectures, which are crucial for understanding the material.

New Information: Assuming you know the importance of engaging with the course content, it's clear that these specific areas haven't been communicated to you in detail. Focusing on these will provide new insights into your performance.

Where to Next?

1. *Weeks 6-7:* Make it a priority to engage with problem-solving activities and quizzes. This will help you understand and apply the concepts better.
2. *Weeks 6-7:* Establish a consistent study schedule. Regularly watch and interact with video lectures to stay aligned with the course content.

By addressing these areas, you'll enhance your understanding and performance in the course.



Which explanation do you prefer the most?

Why do you prefer this explanation?

What is the main action you would you take in the next week based on your preferred explanation?

I would improve my regularity of learning on the platform (have a daily or weekly schedule).

I would watch video lectures immediately when they are released

I would attempt more problems.

I would spend more time on the platform.

I would watch more videos.

I would engage more heavily with videos (pausing, replaying, rewinding)

I would practice more for the quiz so I could solve it in fewer attempts.

I would try to attempt quizzes for the next weeks earlier.

I would try to solve the quizzes faster.

I would try to watch videos for the next weeks earlier.

For this action, which weeks of material would you focus on? (Select minimum 1 week and maximum 3 weeks to focus on)

Review Week 1 (Intro, Urban Planning, African Cities)	Review Week 2 (Stakes and Challenges, Which model for which city)	Review Week 3 (Globalization and Cities, Climate Change, Transport)	Review Week 4 (Urban Facilities, Public Spaces)	Review Week 5 (Urban Sprawl, Professions, Informal settlements)	Engage in upcoming Week 6 (Critical Reading, 10 basic principles, Urban Agriculture)	Engage in upcoming Week 7 (Tools of urban planning, GIS)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you grade each explanation?

A score of 1 is the lowest for each criteria, a score of 5 is the highest for each criteria. You can select multiple explanations for each score.

- **Usefulness:** This explanation is useful to understand the prediction based on my learning behavior.
- **Trustworthiness:** This explanation lets me judge if I should trust the suggestions.
- **Actionability:** This explanation helps me make a decision on how to improve my learning behavior.
- **Completeness:** This explanation has sufficient detail to understand why the prediction was made based on my learning behavior.
- **Conciseness:** Every detail of this explanation is necessary.

	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Usefulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trustworthiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actionability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conciseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student 2b

African Cities
(Course 2/3, Explanations 2/2)

--- Explanation 1 ---

Feedback on Your Course Performance

Your current performance shows that you're struggling with the course. The main goal is to help you pass by increasing your engagement with the course material and activities.

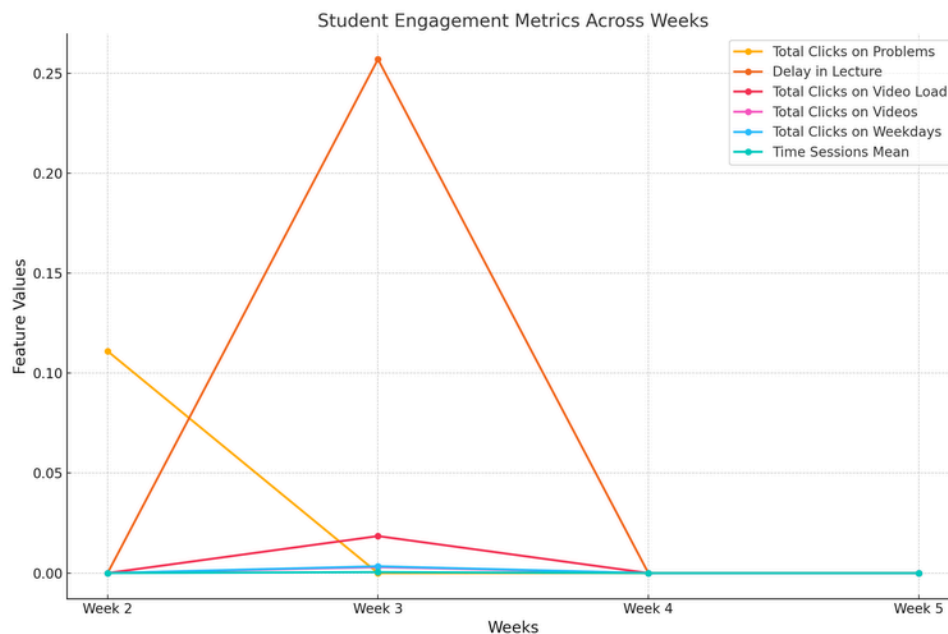
How Am I Doing?

- *Abnormal Causes*: You haven't engaged with problem-solving activities at all in Weeks 2, 3, 4, and 5. This is crucial because solving problems helps solidify your understanding of the topics.
- *Recent Events*: Recently, you haven't watched any videos or participated in quizzes for Week 5. Videos and quizzes are essential as they cover key concepts and allow you to self-assess.
- *Controllable Factors*: You have control over watching videos, attempting quizzes, and solving problems. Focusing on these activities will significantly improve your understanding and retention of the material.

Where to Next?

1. *Week 6*: Make sure to watch all the videos on "Critical reading" and "The 10 basic principles." Attempt the quiz to test your understanding.
2. *Week 7*: Engage with the "Tools of urban planning" and "Diagnostic" topics by solving related problems and watching the videos. This will prepare you for the upcoming case study on Ndjamena.

By actively engaging with the course material and maintaining a consistent study schedule, you can improve your performance and understanding of urban planning.



--- Explanation 2 ---

This student is predicted to fail the course with likelihood 99.4%. The model's explanation is determined by finding the minimal difference in the feature values that would flip the student's performance prediction. The model found the following features to be the most predictive for this student:

DelayLecture: The average delay in viewing video lectures after they are released to students.

ContentAlignment: The number of videos this week that have been watched by the student.

TotalClicksProblem: The number of clicks that a student has made on problems this week.

RegPeriodicityDayHour: The extent to which the hourly pattern of user's activities repeats over days.

NumberOfSessions: The number of unique online sessions the student has participated in.

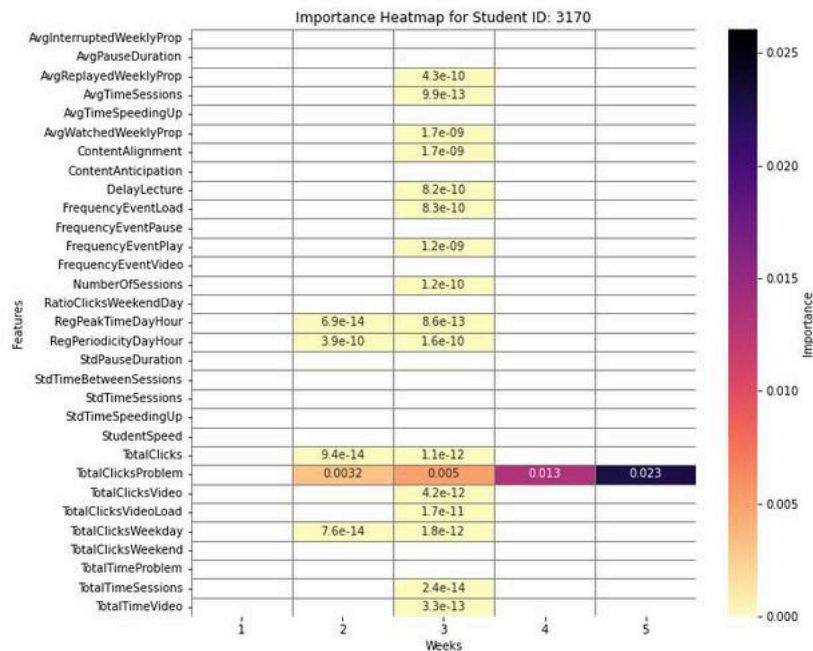
FrequencyVideoPlay: The frequency between every Video.Play action and the following action.

TotalTimeSessions: The sum of the student's time in sessions.

AvgWatchedWeeklyProp: The ratio of videos watched over the number of videos available.

AvgTimeSessions: The average of the student's time per session.

The full set of feature-weeks found important are described in the plot. Improving on these behaviors could lead to stronger performance in the course.



--- Explanation 3 ---

Feedback on Your Course Performance

You are currently struggling in the course "Villes africaines I: Introduction a la planification urbaine." The goal is to successfully pass the course by engaging more actively with the material and improving your study habits.

How Am I Doing?

External Factors:

- Engagement with Problem-Solving Activities: You have not engaged with problem-solving activities in Weeks 2, 3, 4, and 5. These activities are crucial for understanding the course content and applying what you learn.
- Content Alignment and Anticipation: You have not kept up with the weekly content or previewed upcoming materials, which is essential for staying on track with the course.

Internal Relationships:

- Regularity and Periodicity: Your study patterns lack consistency, which affects your ability to retain information. Regular study habits are important for reinforcing learning.
- Video Interaction: You have not interacted with video lectures, which are a primary medium for delivering course content.

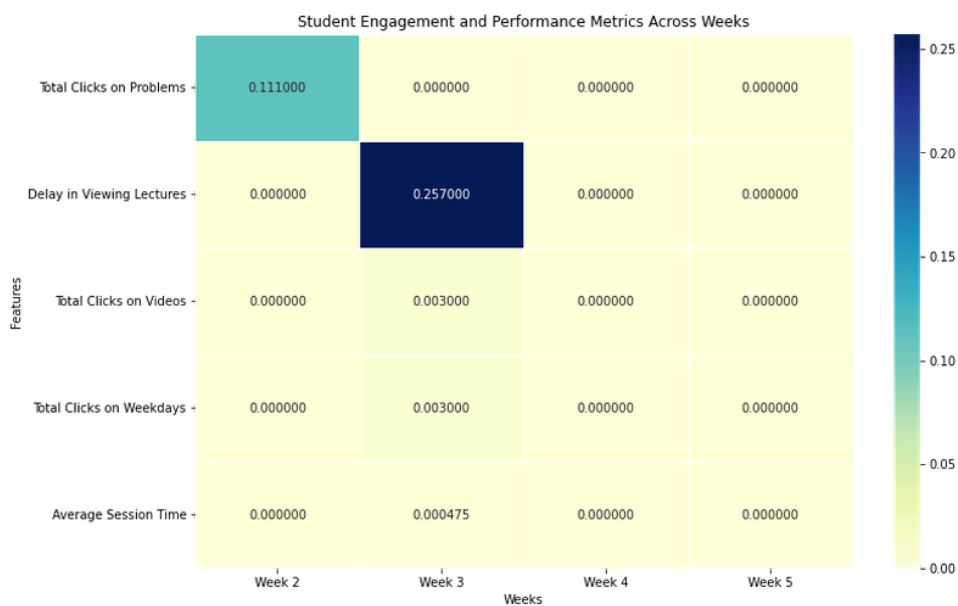
Focus on Improvement:

- Engagement with Quizzes: You have not attempted quizzes, which are essential for self-assessment and reinforcing learning.

Where to Next?

1. **Week 6:** Engage with the "Critical reading" and "The 10 basic principles" topics. Attempt Quiz 6 to self-assess your understanding.
2. **Week 7:** Focus on "Tools of urban planning" and "GIS." Make sure to watch the video lectures and attempt Quiz 7 to reinforce your learning.

By following these steps, you can improve your performance and better understand the course material.



--- Explanation 4 ---

Where Am I Going?

You've been working through "Villes africaines I: Introduction a la planification urbaine," which explores urban development in Africa. The goal is to understand various aspects of urban planning and apply this knowledge effectively.

How Am I Doing?

Target Event (P): You have not engaged with problem-solving activities or video lectures and have irregular study patterns. This lack of engagement is crucial because these activities are essential for understanding and applying course concepts.

Contrast Event (Q): Ideally, you would have actively participated in problem-solving activities, watched video lectures, and maintained regular study habits. These actions are chosen as contrasts because they are fundamental to mastering the course material.

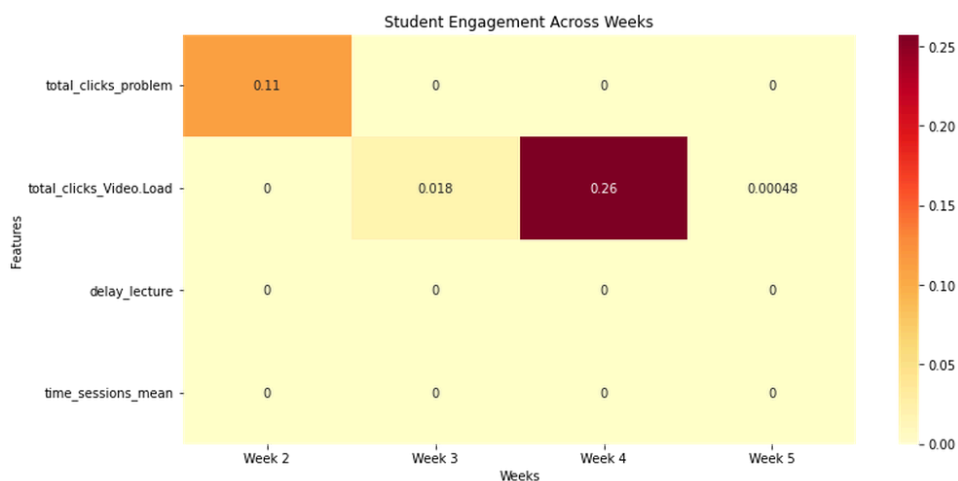
Key Causes: The main causes for your current performance are:

- *Lack of problem-solving activity:* You did not click on any problems in Weeks 2, 3, 4, and 5.
- *Irregular study patterns:* Your study habits lack consistency.
- *Minimal video interaction:* You have not been loading or watching videos.

These causes are significant as they directly impact your understanding and retention of the course material.

Where to Next?

1. **Engage with Problem-Solving Activities:** Start by attempting the problems in Week 6 and revisit those from Weeks 2-5. This will help reinforce your understanding.
2. **Watch and Engage with Video Lectures:** Focus on the video content for Week 6, especially on critical reading and urban form. Then, review the videos from Weeks 4 and 5 to catch up on missed content.



Which explanation do you prefer the most?

Why do you prefer this explanation?

What is the main action you would you take in the next week based on your preferred explanation?

- I would improve my regularity of learning on the platform (have a daily or weekly schedule).
- I would watch video lectures immediately when they are released
- I would attempt more problems.
- I would spend more time on the platform.
- I would watch more videos.
- I would engage more heavily with videos (pausing, replaying, rewinding)
- I would practice more for the quiz so I could solve it in fewer attempts.
- I would try to attempt quizzes for the next weeks earlier.
- I would try to solve the quizzes faster.
- I would try to watch videos for the next weeks earlier.

For this action, which weeks of material would you focus on? (Select minimum 1 week and maximum 3 weeks to focus on)

Review Week 1 (Intro, Urban Planning, African Cities)	Review Week 2 (Stakes and Challenges, Which model for which city)	Review Week 3 (Globalization and Cities, Climate Change, Transport)	Review Week 4 (Urban Facilities, Public Spaces)	Review Week 5 (Urban Sprawl, Professions, Informal settlements)	Engage in upcoming Week 6 (Critical Reading, 10 basic principles, Urban Agriculture)	Engage in upcoming Week 7 (Tools of urban planning, GIS)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you grade each explanation?

A score of 1 is the lowest for each criteria, a score of 5 is the highest for each criteria. You can select multiple explanations for each score.

- **Usefulness:** This explanation is useful to understand the prediction based on my learning behavior.
- **Trustworthiness:** This explanation lets me judge if I should trust the suggestions.
- **Actionability:** This explanation helps me make a decision on how to improve my learning behavior.
- **Completeness:** This explanation has sufficient detail to understand why the prediction was made based on my learning behavior.
- **Conciseness:** Every detail of this explanation is necessary.

	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Usefulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trustworthiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actionability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Completeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conciseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student 3a

Elements of Geometry (Course 3/3, Explanations 1/2)

--- Explanation 1 ---

Feedback on Your Performance

Where Am I Going?

You're doing well in the "Elements de Geomatique" course, but there's room for improvement. The goal is to pass the course by enhancing your understanding and engagement with the material.

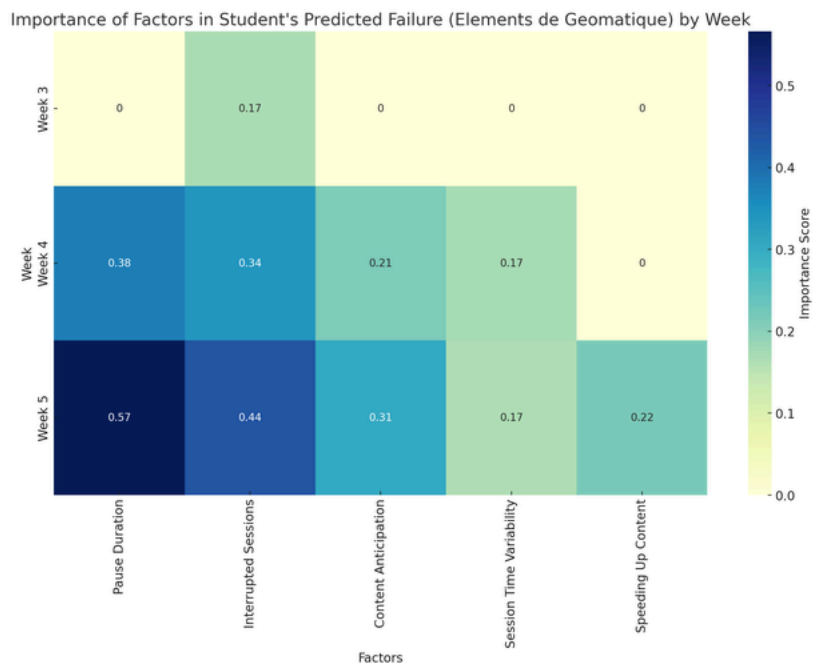
How Am I Doing?

- *Necessary Causes:* Your high competency strength in Week 2 (performing well in quizzes with few attempts) is crucial but inconsistent across other weeks. This inconsistency impacts your overall performance.
- *Robust Explanation:* Despite interruptions in Week 3, your engagement was strong, which is a positive sign. However, the lack of anticipation (not reviewing future content) in Weeks 1, 2, and 3, and minimal engagement in Week 5, negatively affected your progress.

Where to Next?

1. *Week 6:* Focus on "Geometric Leveling" by reviewing Week 5's "Modeling and Interpolation" topics. This will help bridge the gap and strengthen your understanding.
2. *Week 7:* Engage actively with "Surveying" by revisiting Week 4's "Cartography" lessons. This continuity will enhance your grasp of spatial measurements and improve your performance.

By following these steps, you'll build a stronger foundation and increase your chances of success in the course.



--- Explanation 2 ---

Feedback on Your Performance

Where Am I Going?

You're doing well in the course "Elements de Geomatique," but there's room for improvement. The goal is to pass the course by engaging consistently with the material and improving quiz performance.

How Am I Doing?

Abnormal Causes:

- Competency Strength in Week 2: You performed exceptionally well in Week 2, but this hasn't been consistent.
- Interrupted Sessions in Week 3: You had a high number of interrupted sessions, indicating active engagement but also distractions.

Recent Events:

- Week 5: You spent a moderate amount of time on problems but didn't replay videos or delay lecture viewing. This mixed engagement is crucial to consider for future improvement.

Controllable Factors:

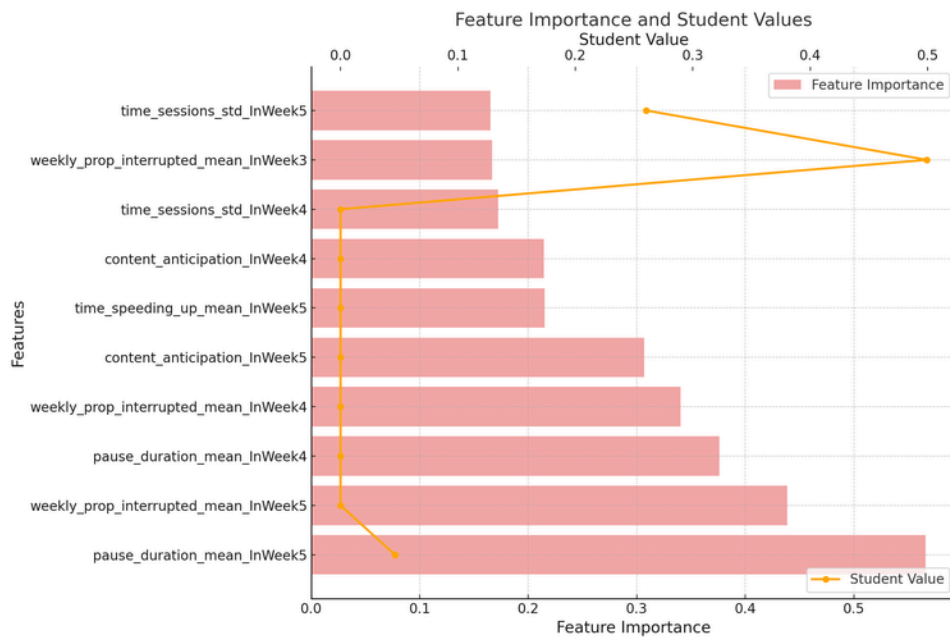
- Consistent Engagement: Focus on maintaining regular study sessions without interruptions.
- Quiz Attempts: Continue attempting quizzes multiple times to improve your understanding and performance.

Where to Next?

1. Weeks 6-7: Focus on consistent engagement and minimize interruptions. Regular study sessions will help you grasp new topics

like Geometric Leveling and Surveying.

2. Weeks 8-10: Preview upcoming materials to build a stronger foundation. This will help you understand complex topics like Polar Surveying and Satellite Positioning Principles better.



--- Explanation 3 ---

This student is predicted to fail the course with likelihood 84.11%. The model's explanation is determined by finding the minimal difference in the feature values that would flip the student's performance prediction. The model found the following features to be the most predictive for this student:

AvgInterruptedWeeklyProp: The ratio of videos interrupted over the number of videos available.

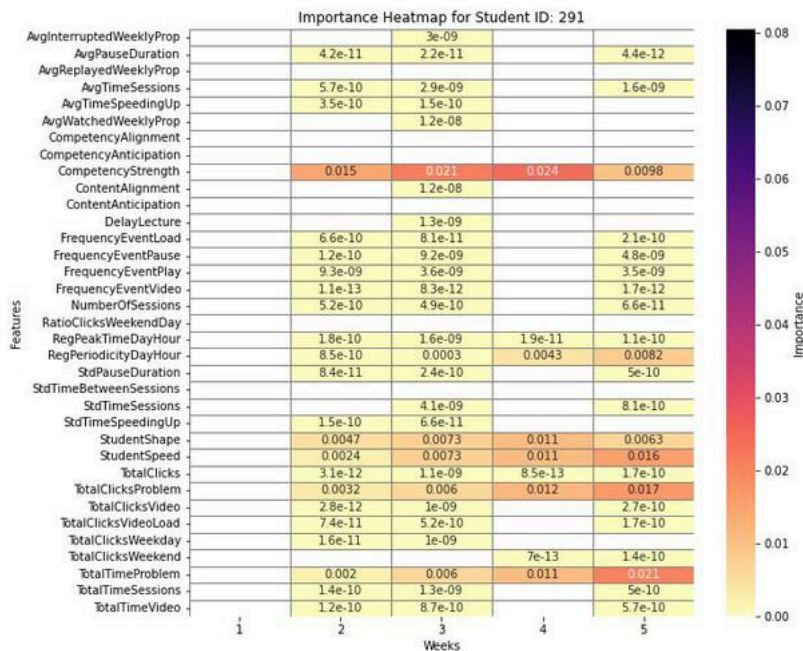
AvgPauseDuration: The student's average pause duration (seconds).

StdTimeSessions: The standard deviation of student's time in sessions.

AvgTimeSpeedingUp: The student's average time using Video.SeekForward actions (seconds).

ContentAnticipation: The number of videos covered by the student from those that are in subsequent weeks.

The full set of feature-weeks found important are described in the plot. Improving on these behaviors could lead to stronger performance in the course.



--- Explanation 4 ---

Feedback on Your Performance

Where Am I Going?

You're doing well in the "Elements de Geomatique" course, but there's room for improvement. Your goal is to pass the course by understanding key concepts in geomatics, such as geodesy, cartography, and geographic information systems (GIS).

How Am I Doing?

Course Title: Elements de Geomatique

Overview: This course delves into the field of geomatics, focusing on geodesy, cartography, and geographic information systems (GIS). It is structured into weekly chapters, each concentrating on different aspects and techniques of geomatics.

Week 1:

Skills: Introduction to Geomatics

Topics: Introduction to the course, Representation, Acquisition, Management

Quizzes: Quiz: Introduction to Geomatics

Week 2:

Skills: Geodesy

Topics: Introduction to Geodesy, Units, Coordinate Systems, Exercise on infinitesimal displacement

Quizzes: Quiz: Geodetic Principles, Quiz: Earth Coordinates, Quiz:

Geodetic Units

Week 3:

Skills: Geodetic References

Topics: Geodetic References, Projections

Quizzes: Quiz: Projections, Quiz: Swiss Coordinates

Week 4:

Skills: Cartography

Topics: Introduction to Cartography, Semiology, Exercise on slab thickness

Quizzes: Quiz: Cartography, Quiz: Semiology

Week 5:

Skills: Modeling and Interpolation

Topics: Modeling and Interpolation

Quizzes: Quiz: Modeling, Quiz: Introduction to DEM (Digital Elevation Model)

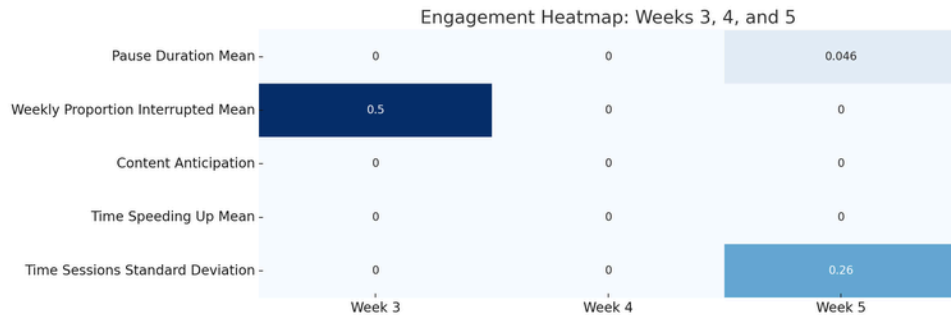
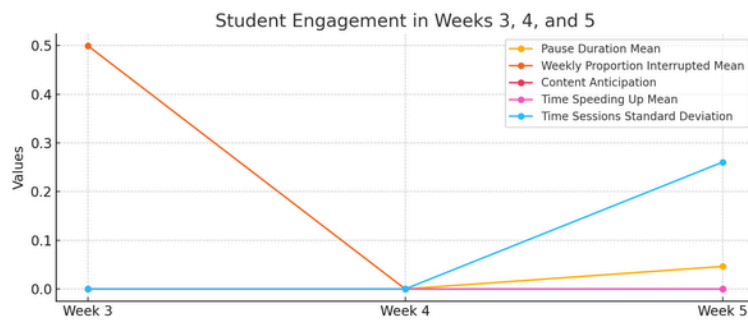
You've shown strong competency in Week 2, but it hasn't been consistent. In Week 3, your engagement was high but interrupted. Weeks 4 and 5 showed no significant improvement in quiz performance on the first attempt, but you have been resilient. You didn't engage with future content in Weeks 1-3, which could be a concern.

Where to Next?

1. **Week 6 (Geometric Leveling):** Focus on understanding the principles of geometric leveling and definitions of altitudes. Try to minimize interruptions during study sessions to maintain consistent engagement.

2. **Week 7 (Surveying):** Preview the topics on surveying and start early. This will help you build a stronger foundation and improve your performance in upcoming quizzes.

By addressing these areas, you'll enhance your learning and increase your chances of passing the course successfully.



Which explanation do you prefer the most?

Why do you prefer this explanation?

What is the main action you would you take in the next week based on your preferred explanation?

I would improve my regularity of learning on the platform (have a daily or weekly schedule).

I would watch video lectures immediately when they are released

I would attempt more problems.

I would spend more time on the platform.

I would watch more videos.

I would engage more heavily with videos (pausing, replaying, rewinding)

I would practice more for the quiz so I could solve it in fewer attempts.

I would try to attempt quizzes for the next weeks earlier.

I would try to solve the quizzes faster.

I would try to watch videos for the next weeks earlier.

For this action, which weeks of material would you focus on? (Select

minimum 1 week and maximum 3 weeks to focus on)

Review Week 1 (Introduction to Geomatics)	Review Week 2 (Geodesy)	Review Week 3 (Geodetic References)	Review Week 4 (Cartography)	Review Week 5 (Modeling and Interpolation)	Engage in upcoming Week 6 (Geometric Leveling)	Engage in upcoming Week 7 (Surveying)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you grade each explanation?

A score of 1 is the lowest for each criteria, a score of 5 is the highest for each criteria. You can select multiple explanations for each score.

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	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
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Trustworthiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actionability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conciseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Student 3b

Elements of Geometry (Course 3/3, Explanations 2/2)

--- Explanation 1 ---

Performance Feedback

You are showing promise in the "Elements de Geomatique" course, but there are areas to focus on to ensure success. The goal is to

strengthen your understanding and performance across all weeks.

How Am I Doing?

External Factors:

- *Interrupted Sessions:* Week 3 had many interruptions, which can disrupt your learning process. Minimizing these interruptions is crucial.
- *Lecture Viewing:* In Week 5, you viewed lectures on time, which is excellent. Keeping up with timely engagement is important.

Internal Relationships:

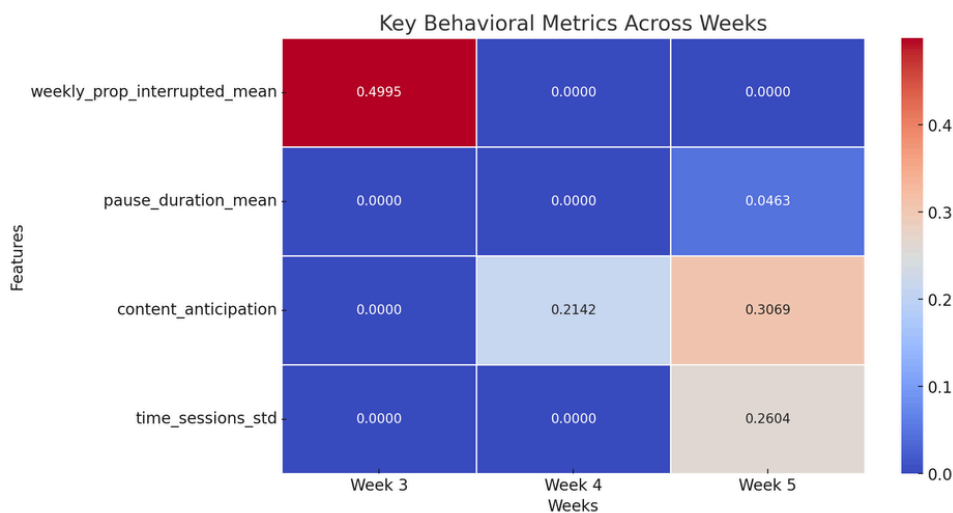
- *Competency Strength:* High competency in Week 2 indicates strong understanding, but this was not consistent in other weeks.
- *Problem-Solving Time:* In Week 5, you spent a moderate amount of time on problems, indicating areas of struggle.

Focus on Improvement:

- *Content Anticipation:* You did not engage with future content in Weeks 1, 2, and 3. Previewing upcoming materials can help you build a stronger foundation and improve understanding.
- *Quiz Attempts:* You showed resilience in quiz attempts in Weeks 4 and 5, which is good. Continue this practice to improve performance.

Where to Next?

1. *Week 6:* Focus on Geometric Leveling by previewing the materials and minimizing interruptions. This will help you grasp the new concepts better.
2. *Week 7:* Engage thoroughly with Surveying topics. Reflect on Week 2's strong performance and try to replicate that consistency.



--- Explanation 2 ---

Performance Feedback

You've made good progress in the course "Elements de Geomatique," and your goal is to pass the course by mastering the weekly topics and quizzes.

Explanation Findings

Relevant Causes:

- Competency Strength in Week 2: Your high competency strength in Week 2 indicates strong performance, but it wasn't consistent across other weeks.
- Weekly Proportion of Interrupted Sessions in Week 3: You had many interrupted sessions, which shows active engagement despite interruptions.
- No Anticipation in Covering Future Content: You haven't engaged with upcoming materials, which could be a concern for future performance.

New Information:

Assuming you know your own study habits, here are some insights you might not be aware of:

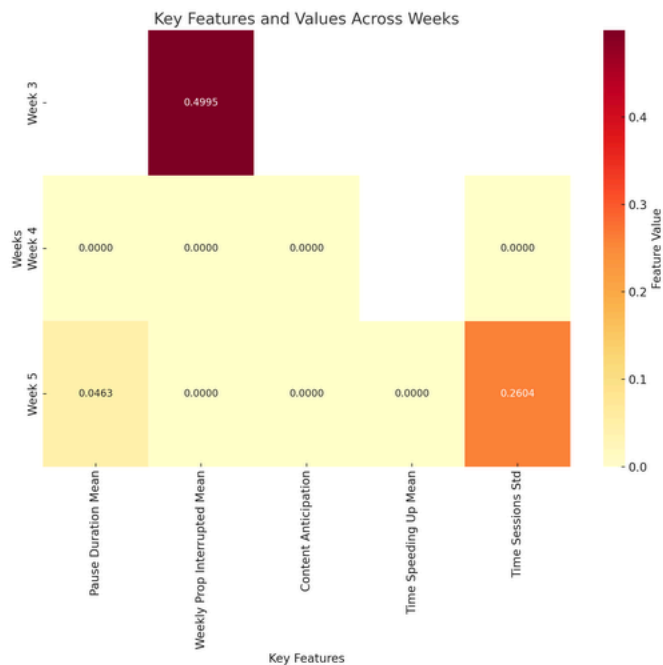
- No Competency Strength in Weeks 4 and 5: This positively impacted your performance, suggesting the model expects improvement in later weeks.
- No Delay in Lecture Viewing in Week 5: Timely engagement with video content is a positive sign.

I focused on these causes because they highlight areas where you can improve consistency and engagement.

Recommendations

1. Week 6: Focus on maintaining regular study sessions to minimize interruptions. This will help you stay consistent with your learning.
2. Week 7: Preview upcoming materials to build a stronger foundation. This will help you anticipate and understand new content better.

By addressing these areas, you can enhance your learning trajectory and increase your likelihood of successfully completing the course.



--- Explanation 3 ---

You are doing well in the course, but there's room for improvement to ensure you pass with flying colors. The goal is to strengthen your understanding and engagement with the course material.

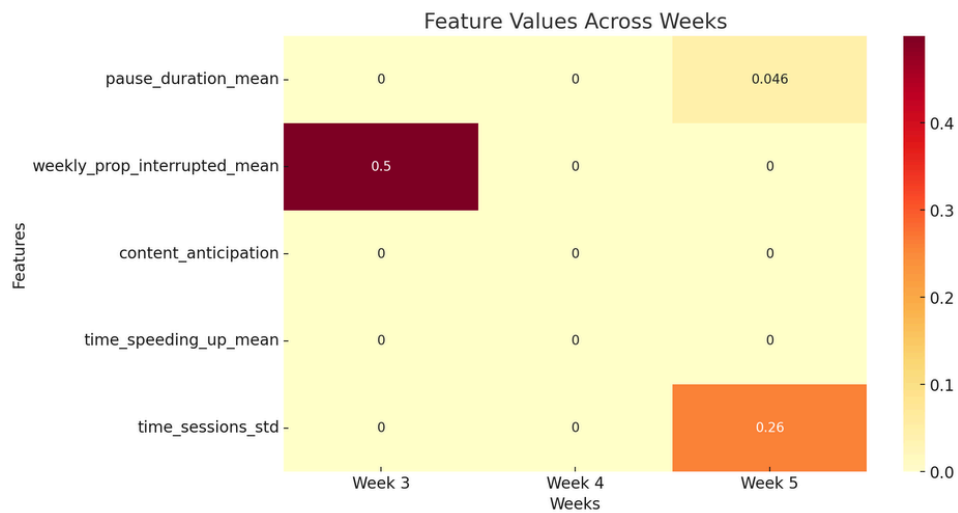
How Am I Doing?

- Target Event (P): You showed high competency strength in Week 2, which means you performed well in quizzes, indicating strong understanding of geodetic principles. However, this high performance was not consistent across other weeks.
- Contrast Event (Q): In Weeks 4 and 5, you didn't show competency strength, meaning you didn't achieve high quiz scores on the first attempts. This inconsistency is crucial as it affects your overall performance.
- Key Causes: The main cause for the high competency strength in Week 2 was your engagement with the material and quizzes. In contrast, the lack of engagement and anticipation in Weeks 4 and 5 led to no competency strength. This indicates that consistent engagement and timely review of materials are essential for maintaining high performance.

Where to Next?

1. Week 6 Focus: Engage deeply with the "Geometric Leveling" material. Attend all sessions and attempt quizzes multiple times to improve your understanding.
2. Review Week 5 Content: Revisit "Modeling and Interpolation" topics. Practice additional problems and rewatch videos to solidify your

comprehension and prepare for upcoming weeks.



--- Explanation 4 ---

This student is predicted to fail the course with likelihood 84.11%. The model's explanation is determined by finding the minimal difference in the feature values that would flip the student's performance prediction. The model found the following features to be the most predictive for this student:

AvgInterruptedWeeklyProp: The ratio of videos interrupted over the number of videos available.

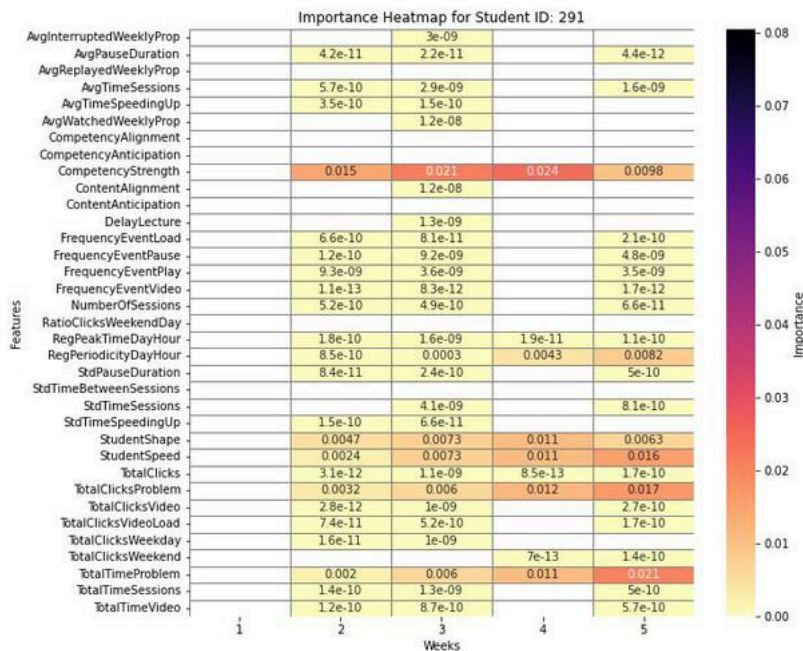
AvgPauseDuration: The student's average pause duration (seconds).

StdTimeSessions: The standard deviation of student's time in sessions.

AvgTimeSpeedingUp: The student's average time using Video.SeekForward actions (seconds).

ContentAnticipation: The number of videos covered by the student from those that are in subsequent weeks.

The full set of feature-weeks found important are described in the plot. Improving on these behaviors could lead to stronger performance in the course.



Which explanation do you prefer the most?

Why do you prefer this explanation?

What is the main action you would you take in the next week based on your preferred explanation?

- ☐ I would improve my regularity of learning on the platform (have a daily or weekly schedule).
- ☐ I would watch video lectures immediately when they are released
- ☐ I would attempt more problems.
- ☐ I would spend more time on the platform.
- ☐ I would watch more videos.
- ☐ I would engage more heavily with videos (pausing, replaying, rewinding)
- ☐ I would practice more for the quiz so I could solve it in fewer attempts.
- ☐ I would try to attempt quizzes for the next weeks earlier.
- ☐ I would try to solve the quizzes faster.
- ☐ I would try to watch videos for the next weeks earlier.

For this action, which weeks of material would you focus on? (Select minimum 1 week and maximum 3 weeks to focus on)

Review Week 1 (Introduction to Geomatics)	Review Week 2 (Geodesy)	Review Week 3 (Geodetic References)	Review Week 4 (Cartography)	Review Week 5 (Modeling and Interpolation)	Engage in upcoming Week 6 (Geometric Leveling)	Engage in upcoming Week 7 (Surveying)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How would you grade each explanation?

A score of 1 is the lowest for each criteria, a score of 5 is the highest for each criteria. You can select multiple explanations for each score.

- **Usefulness:** This explanation is useful to understand the prediction based on my learning behavior.
- **Trustworthiness:** This explanation lets me judge if I should trust the suggestions.
- **Actionability:** This explanation helps me make a decision on how to improve my learning behavior.
- **Completeness:** This explanation has sufficient detail to understand why the prediction was made based on my learning behavior.
- **Conciseness:** Every detail of this explanation is necessary.

	EXP 1					EXP 2					EXP 3					EXP 4				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Usefulness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Trustworthiness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Actionability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completeness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conciseness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End remarks

Rank the criterias that matter most to you.

Usefulness

Trustworthiness

Actionability

Completeness

Conciseness

Could you elaborate on why you ranked the criteria this way? What do you expect from the explanation of a model's prediction?

How important are the following elements of the explanation?

1 2 3 3 4 5

Textual Explanation

Plot

Finally, we would like to ask for your general feedback. Do you have any comments or suggestions that you would like to give us?