Audience Q&A – Predicting and Preventing Theme Park Incidents

1. **How accurate are the prediction models, and can they be used in real-time?**

The model predicting incident severity was accurate to around 80%. It's lightweight and fast enough to be used in real time with live weather data.

2. **What other data would improve the performance of the models?**

Adding attendance numbers, ride wait times, or even medical response logs would make the predictions more precise and personalized.

3. **How do you ensure models don’t discriminate based on age or health?**

To avoid bias, we chose not to include guest age or gender in the model. Instead, the focus stays on ride type and environmental conditions.

4. **Why use weather as a proxy for crowding?**

Since we don’t have access to crowd data, weather patterns are a good substitute. Hotter, sunnier days often mean bigger crowds and more ride usage.

5. **What challenges did you face working with text-based data?**

Incident descriptions were brief and inconsistent, making analysis difficult. We utilized keyword analysis to identify common themes such as dizziness or pain.

6. **How will the dashboards be accessed, and by whom?**

While we didn’t create dashboards for this project, they are a logical next step. The insights from this analysis could be built into tools like Tableau or Power BI and shared with park safety and operations teams.

7. **Are the results applicable to other parks or regions?**

Yes — this approach can be adapted to any park or event that tracks incidents and weather. The model is flexible and scalable.

8. **Can this system help prevent severe medical incidents?**

It can help parks anticipate risk and staff accordingly, which could reduce severe incidents — especially on hot or high-risk days.

9. How are maintenance schedules accounted for in the model?

They are not—this is a limitation. Maintenance logs could add another layer to help explain or prevent ride-related issues if they were available.

10. What's needed to move from pilot to full implementation?

The next steps include validating the model with real-time data, building a user-friendly dashboard, and working with park teams to test and integrate it into daily operations.