SCAT
Streamer Content Analysis Tool

Stream smarter, Not harder

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Who/what is it for?

- Streamers looking to analyze their content easily.
- Creators who want to understand what engages their audience without relying on their own contributions in analysis.
- Identifying patterns that drive viewer engagement.
- Providing actionable insights for content improvement.

What is the benefit?

- Increasing viewer retention by quality improvement suggestions
- The creator can see what actions provide more enjoyable viewing experience so they can plan social media strategies accordingly

The idea

- Extract features from stream content (video & audio).
- Measure audience engagement using KPIs.
- Use an explainable personalized ML model to find correlations.
- Help streamers refine their content strategy.

What kind of data are we using?

- **Video features** (e.g., number of faces, dramatic actions).
- **Audio features** (e.g., mentions of price, audience engagement).
- **Viewer engagement data** (chat messages, donations, replay heatmaps).

How are we using that data?

- Feature extraction using AI models for video & audio.
- Engagement score calculation from viewer interactions.
- Association rule mining analysis to find content patterns that boost engagement.
- Example insight:
  more boxes on screen = higher engagement (unboxing effect).

Security and Privacy

- **Publicly available data – No private data collection**
- **Content-focused – Trends & correlations, not individual users**
- **Streamer-controlled – Full control over their own insights**
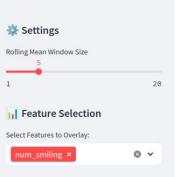- **Models can locally run – Nothing is being sent away**

Feasibility & Accessibility

- **Processing time: ~30 min per 2-hour video**
- **Instant analysis: KPI extraction & association rule mining**
- **Many optimization methods can be used achieving even 10x speedup**
- **The technology and models are constantly getting better and specialized hardware is developed**
- **Customizable insights:
LLMs & vision models can be fine-tuned to streamer-specific content**

Personalization

- How many boxes or packaging materials are visible in the picture?
- What types of computer components are in the picture?
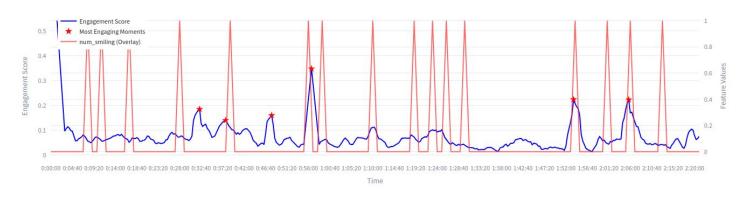- How many RGB lights are visible in the picture?

The Demo

Possible new directions

- Automatic video clipping and publishing to other social media platforms based on interactions and context
- The solution could be extended to analysing content on other social media platforms (A multiplatform social media manager)
- Reasoning with LLMs for high composite score
- Providing new viewers simple context information about the stream and creator

Thank you!

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