

A4L supports three AI tools - SAMI, Jill Watson, & VERA, each with a dedicated analytics dashboard. Together, these dashboards form the Visualization Pipeline: transforming raw learning data into actionable insights for teachers, researchers, and learners across micro and meso learning contexts.

JILL WATSON DASHBOARD

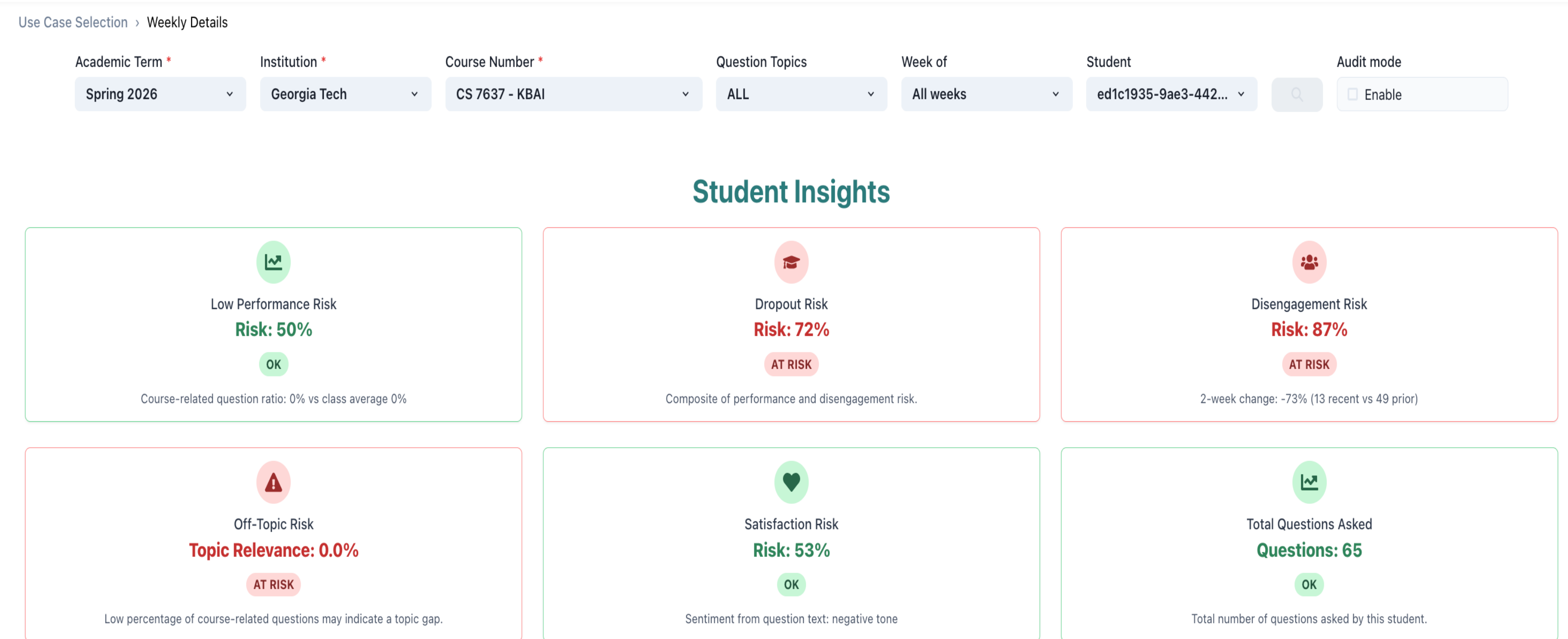
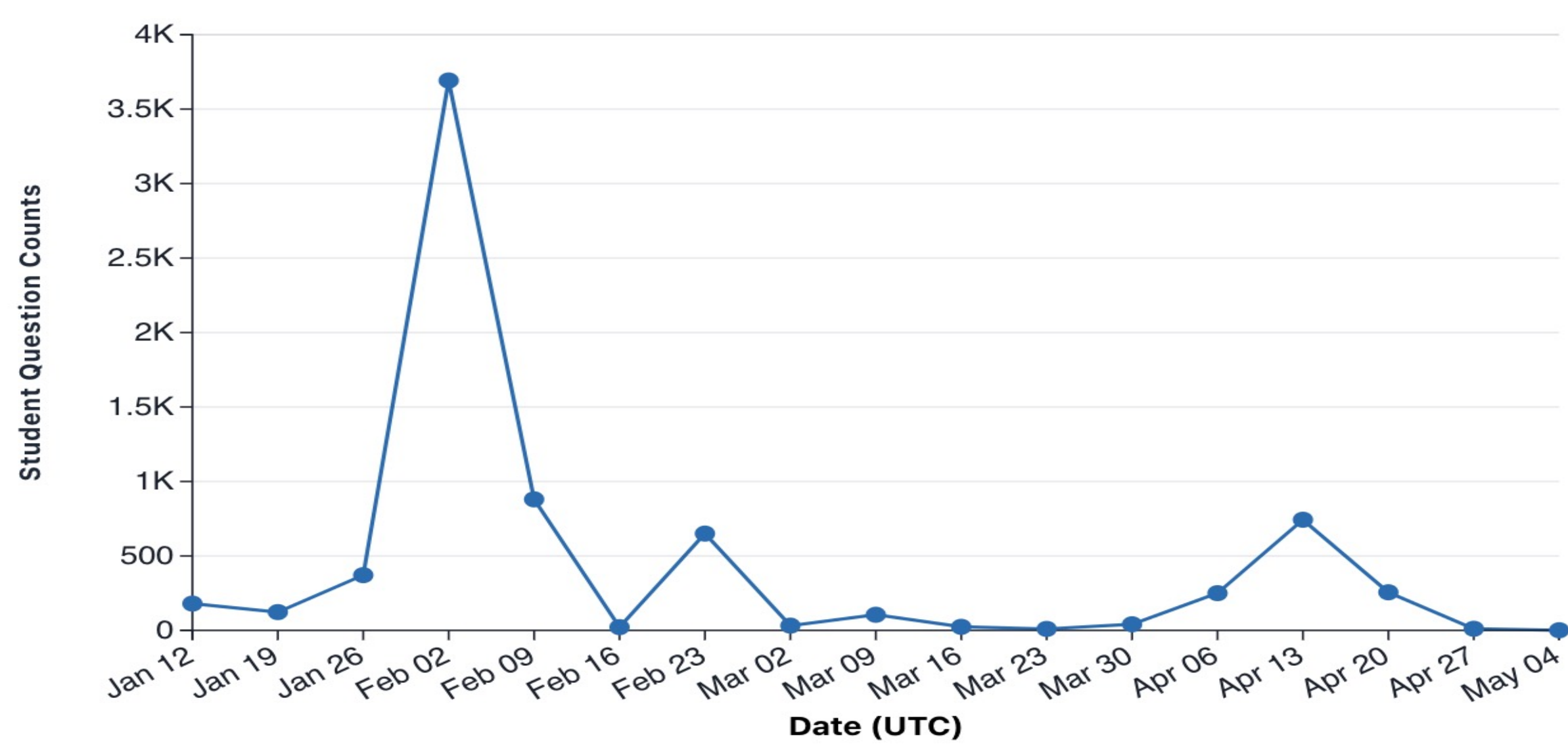
RQ1: Can teachers personalize their teaching in online classrooms using AI teaching assistant logs of student question answering interactions?

Finding 1: Learner-level representations show 34% stronger separation between students than question-level embeddings

Finding 2: Dashboard identifies at-risk students that a single system would miss

Activity Over Time

Frequency of student questions throughout the academic term, showing patterns in student question types. The line represents weekly question totals. Hover over points to see detailed breakdowns by question type.

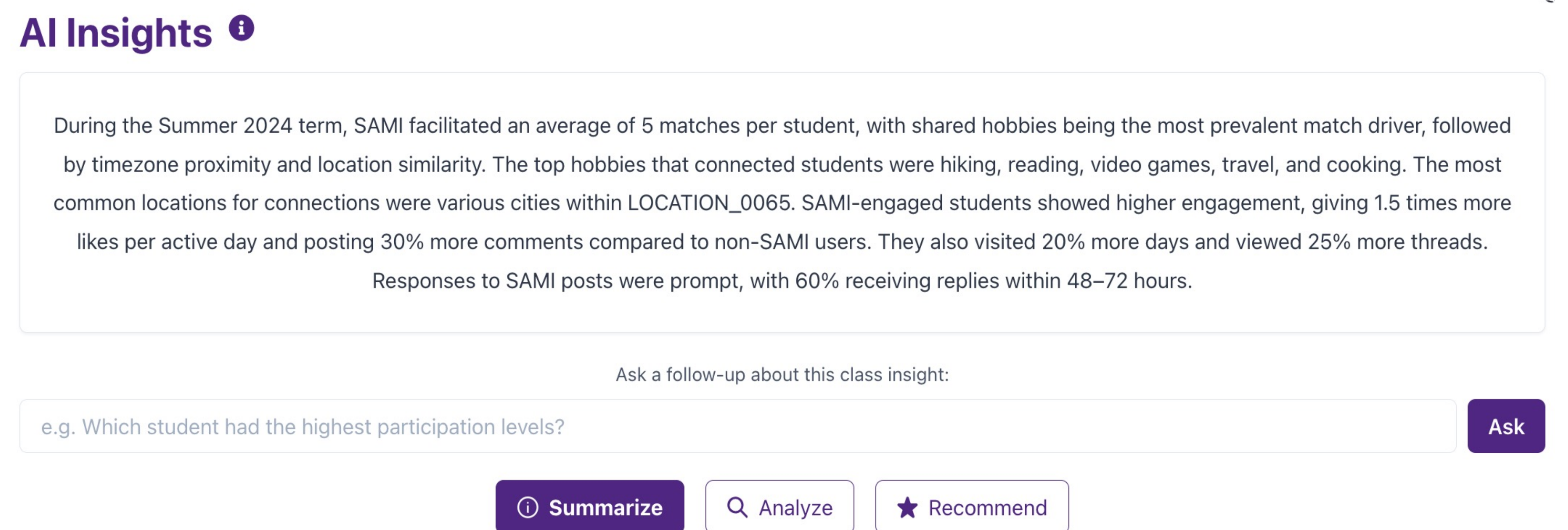
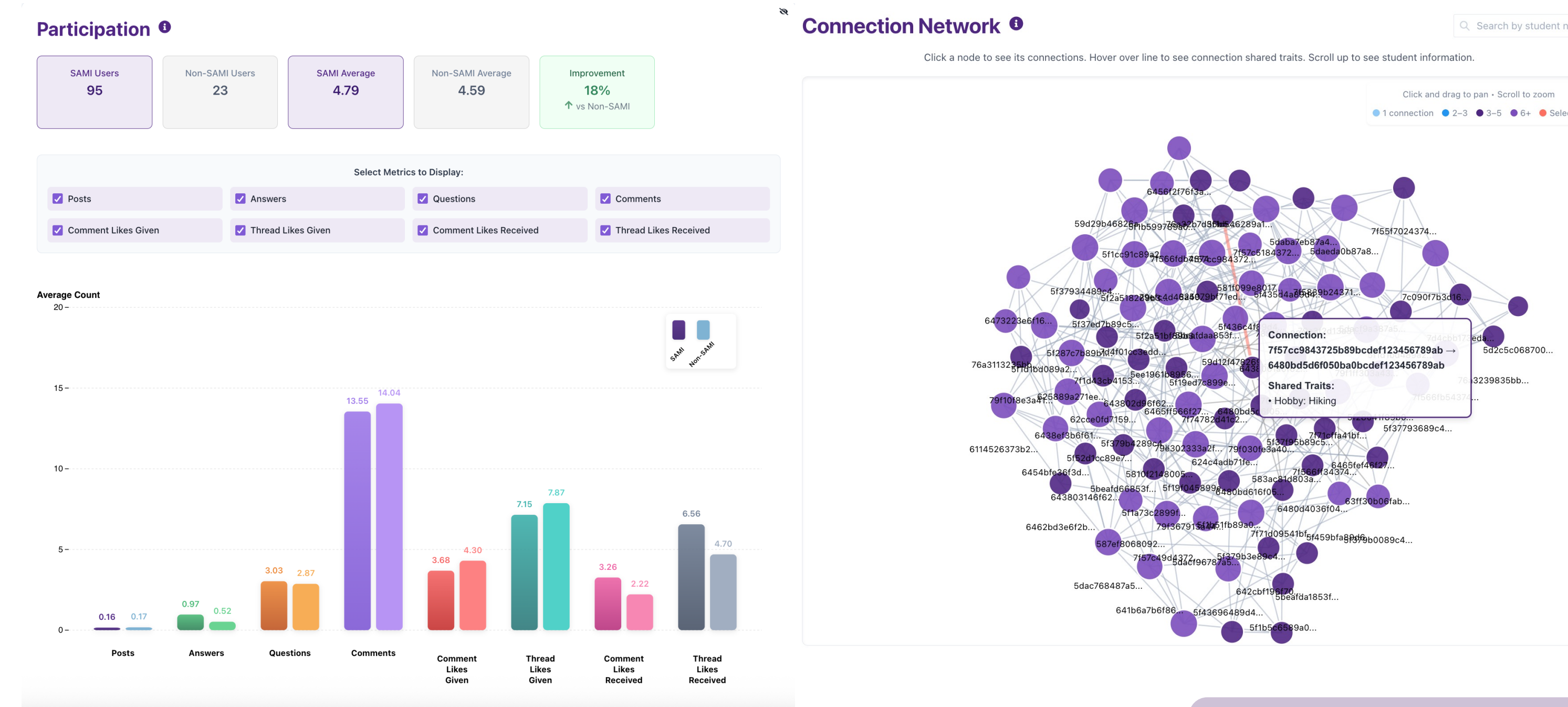


SAMI DASHBOARD

RQ1: How do instructors interpret socially grounded analytics when examining engagement and belonging dynamics in online courses?

RQ2: How does conversational AI support instructor sensemaking and decision-making in learning analytics dashboards?

RQ3: How does teacher-centered personalization, including role-based adaptation and human-AI feedback loops, enable instructors to provide student-centered support?



VERA DASHBOARD

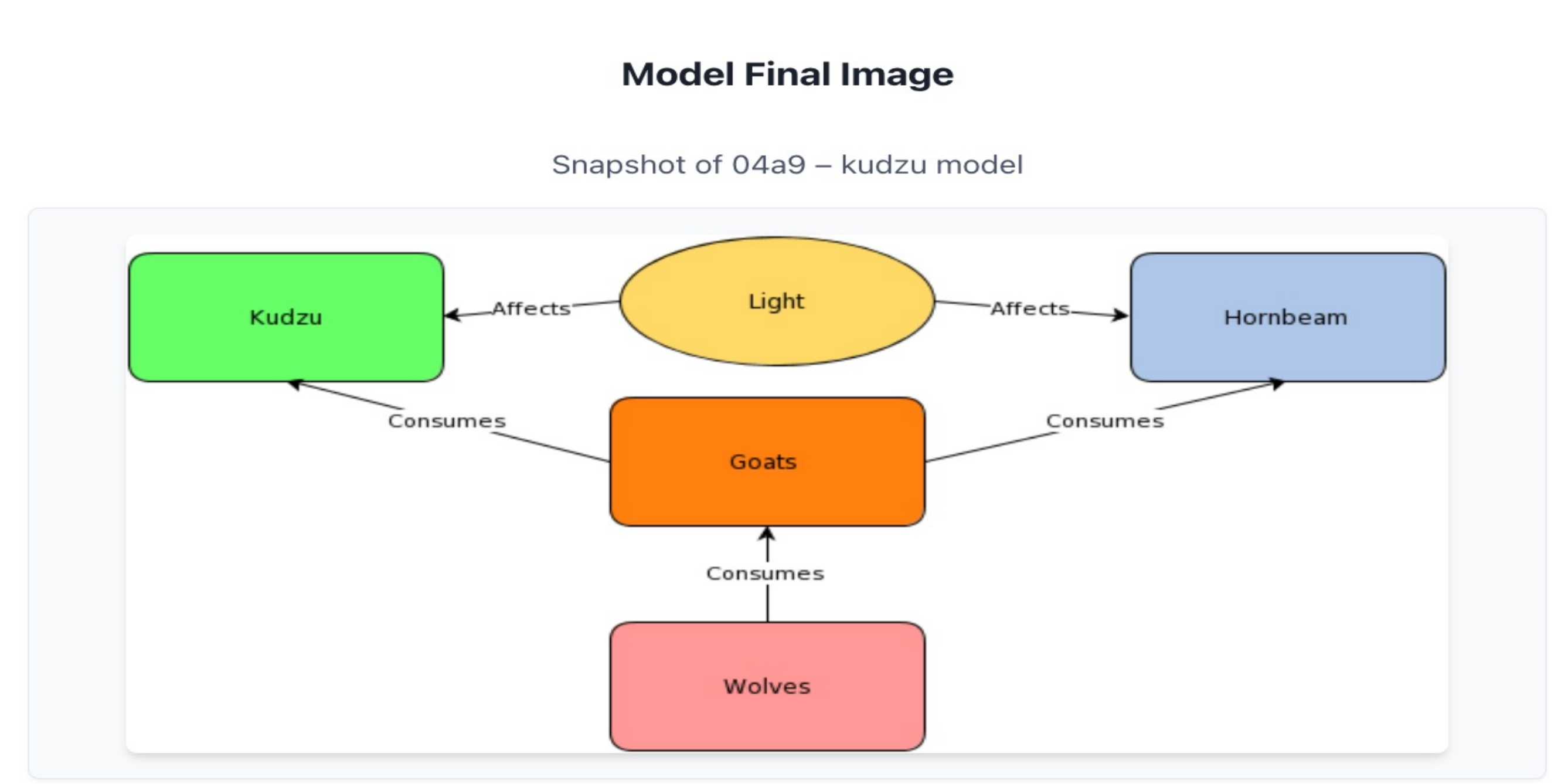
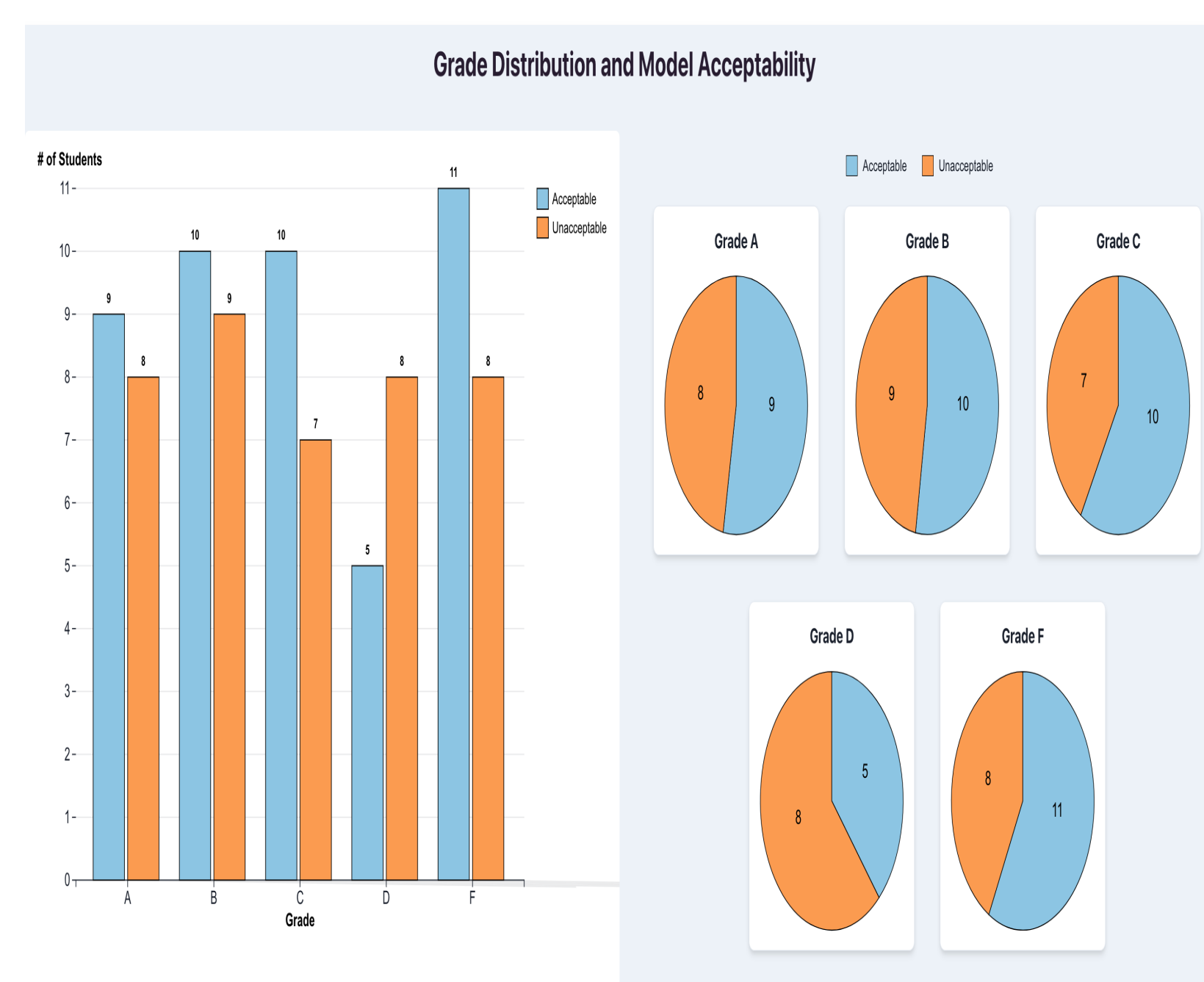
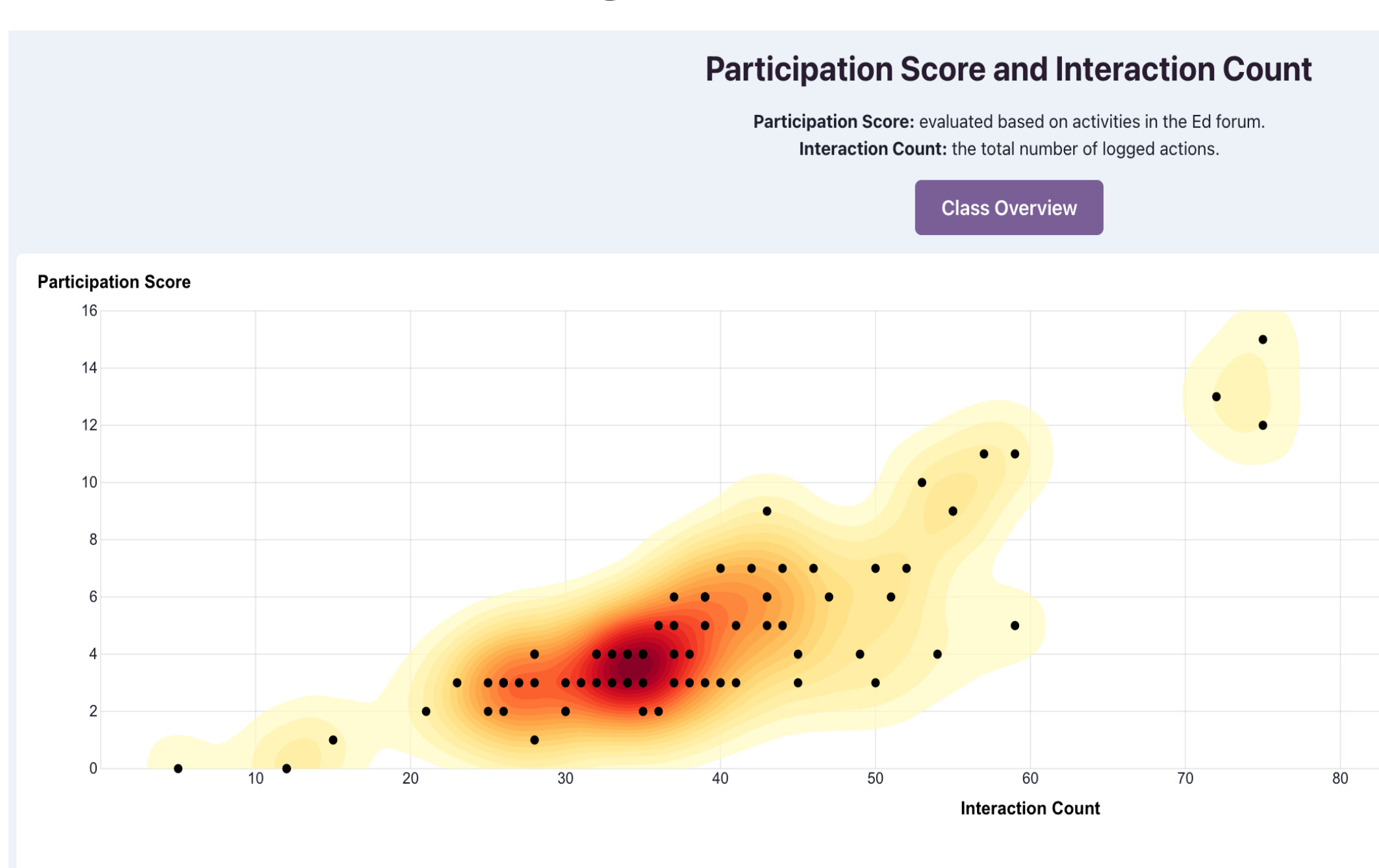
RQ1: How can an AI-guided learner dashboard in VERA enhance student engagement and promote deeper exploration of ecological models?

Hypothesis 1:

AI-guided feedback and structured model comparisons will increase student engagement, leading to higher iteration rates and time spent exploring models

Hypothesis 2:

Students with access to an AI-guided dashboard will make more significant and meaningful model changes compared to students without AI support



Together, the three dashboards form a unified visualization layer within A4L, enabling data-driven decision-making across different AI-augmented learning contexts at Georgia Tech!