THE UNIVERSITY OF CHICAGO
DATA SCIENCE INSTITUTE

IRC's chatbot seeks to provide educational content to students through interactive conversations. Quantitative analysis of the chatbot's dataset uncovered insights on engagement and retention. Teachers and caregivers have more even usage throughout the year, longer conversations, and more engagement than students.

The chatbot has over 90% weekly and monthly user retention rates and increasing daily active users since its inception*. Four predictive models were developed for forecasting retention using a user's total conversations and average conversation duration, with over 60% accuracy.

Those not retained were found to quit in four distinct patterns using clustering algorithms. Analysis of the conversation content showed that there were 22 weeks of lessons with individual topics—this analysis can serve as the basis of module and user progress tracking going forward. Analyzing audio and video attachments—the primary means of communicating content—indicated that users didn't respond adequately to interaction stimuli, which hints that users use the system more as a lesson planner than a chatbot.

Recommendations for data infrastructure improvements, including an accounts system and progress tracking features, were provided; when combined with the analytical insights, they can enhance engagement and retention, improve user experience, and forecast other metrics of interest to grow the platform.

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