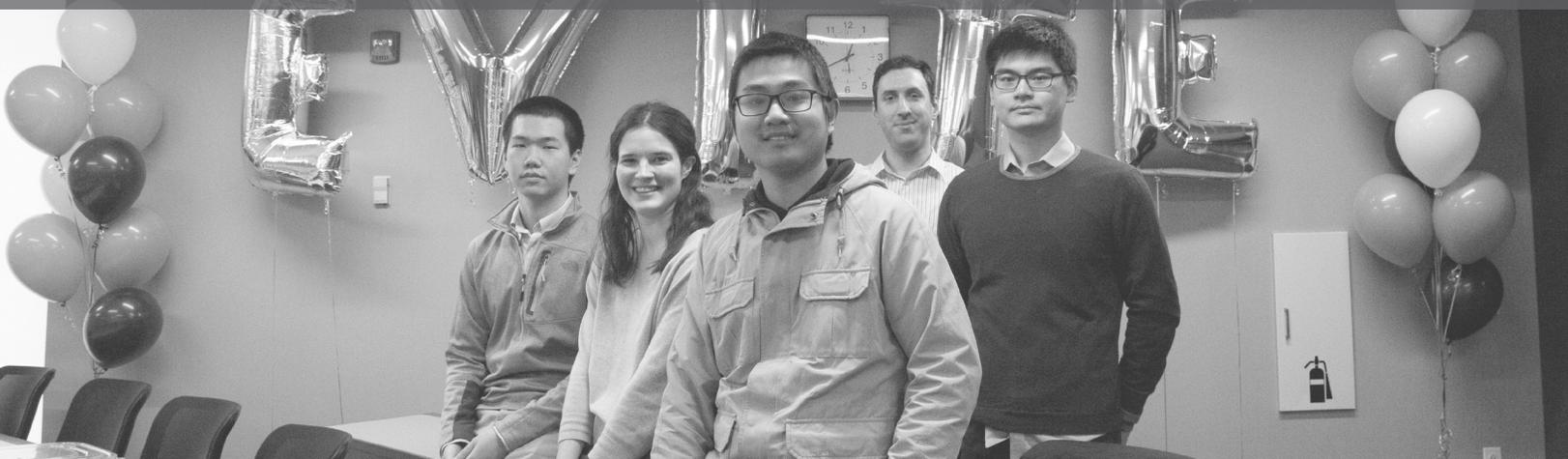


How Students Transformed Evite's Data into Actionable Insights in Two Weeks



About Evite

Overview

Evite is a Los Angeles-based social-planning platform for creating, sending, and managing online invitations with more than:

- 200 million invitations annually
- 100 million annual hosts
- 32 million registered guests
- 20 thousand invitations every hour

Verticals

- Technology
- Social Planning

Business Model

- Free Events - monetized by ads
- Premium Events - paid per event

Core Drivers of Growth

- Guest-to-Host Conversion
- Host Retention
- RSVP Rate
- Hosts Who Upgrade to Premium



Datathon Overview

Twenty self-formed student teams were provided the same core set of Evite user data, which comprised of seasonal events (i.e., BBQs, holiday parties), annual events (i.e., Father's Day, birthday parties), and date-specific events (i.e., engagement parties).

The teams had two weeks to develop their own set of goals and methodologies, choose which machine learning programming languages and tools (i.e., Python, R) to use and leverage their diverse set of analytics skills to come up with a creative solution for Evite to implement.

Objective

Students were asked to increase revenue for Evite by addressing one or more of the core drivers of growth. The winning team's solution would be deployed on the Evite platform to make real-time decisions and to drive measurable improvement to an aspect of Evite's user experience or lifecycle.

Outcome

The student teams presented their findings and solutions to Evite executives at a Datathon symposium. The teams' methodologies ranged from Customer Lifetime Value (CLV) modeling, Likelihood-Ratio Tests, RFM metrics (Recency, Frequency, Monetary), to K-means Clustering. Although each approach rendered valuable, actionable insights, Evite selected the winning team based on their homegrown predictive model, which identified the probability that a guest would become a host in the future based on the type of event they attended.

“I was amazed by the amount of depth that these teams were able to produce in just a couple of weeks. The winning team actually built a working machine learning algorithm that we could potentially plug into our site in a couple of weeks.”

- Victor Cho, W'93, CEO at Evite

The Winning Team

Approach

The winning team's business motivation was to drive guest-to-host conversion. They designed an approach in three basic stages. First, they loaded and performed the data cleaning by removing incorrect or missing data types using Python and pandas. Second, they utilized LightGBM to determine the most important features of the data and optimize parameters, then added additional descriptive variables like median household income based on geolocation data. Finally, they split the data for testing, and trained their model to predict the probability that a guest of a particular event would later host an event through Evite themselves.



Solution

The team recommended that Evite invests in targeted advertisements to guests most likely to become hosts. The content of Evite ads would be determined through a recommendation engine, based on similar events organized in the area, seasonal factors, and network analysis.

For implementation, they calculated the expected revenue for each event:

```
if (expected revenue > external ad revenue):  
    display Evite ads  
else:  
    display third-party ads
```

Impact

After the Datathon, the winning team virtually presented their findings to a larger group of Evite executives and staff. As a result, not only did the team provide an actionable solution and an implementable model, but their work has sparked additional ingenuity within the West Coast company.

"It has definitely given some inspiration to our data and development resources, and we are in active conversations internally about other potential machine learning approaches that were inspired by this approach," said Victor Cho, W'93, CEO at Evite.

The impact of the Datathon has extended beyond the scope of the project, and Evite plans to leverage insight derived from the students' research to push the data analytics envelope even farther.