The Foreseer: Big Data Analytics on Social Media Streams

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We work closely with economists, social scientists, statisticians, and physicians
Data mining of the people, by the people, and for the people

http://foreseer.si.umich.edu/
10% real-time stream since 2011
> 50 million daily posts,
complete metadata

Billions

Filtering
Detection
Characterization
Prediction
Intervention
Filtering

#hashtags, @users, keywords, classifiers

Social media content & metadata indexed
Detection

Post Stream: P

Signal Filtering

Signals

Clustering

C1

C3

C2

Classification

Non-signals

Signal Clusters Matched with Non-signal Posts

Positive Clusters

Persuasion Campaigns

Rumors

Events
Characterization

60 seconds, 2 minutes, and 3 hours after the first rumor post

Audience responses to rumors and corrections
Build machine learning algorithms to predict:

- the popularity of a hashtag;
- whether a user is joining a team;
- how many new friends;
- the next app you download;
- the influence of a diffusion;
...

Prediction
Recommender Systems

- **Join Recommended Team(s)**
- **Join Other Team(s)**

### Graph 1: % of Lenders Joining Teams

<table>
<thead>
<tr>
<th>Category</th>
<th>All Lenders</th>
<th>Lenders Who Open Our Emails</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-Contact</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teams-Exist</td>
<td></td>
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<tr>
<td>Location-Explanation</td>
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<tr>
<td>Location-NoExplanation</td>
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<tr>
<td>History-Explanation</td>
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<tr>
<td>History-NoExplanation</td>
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<tr>
<td>Leaderboard-Explanation</td>
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<tr>
<td>Leaderboard-NoExplanation</td>
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</tbody>
</table>

### Graph 2: Amount Contributed ($)

- **1-Day Window**
- **7-Day Window**
- **Median Lender Lifetime Contribution**
Looking forward to new collaborations/applications
Send your inquiries to qmei@umich.edu