

Content Features	
$score_{food/nature/...}$	The probability of the photo having a specific feature (food, overlaid text, landmark, nature, etc.)
$is\_en$	Whether the photo was posted by an English-speaking user or page
$has\_caption$	Whether the photo was posted with a caption
$liwc_{pos/neg/soc}$	Proportion of words in the caption that expressed positive or negative emotion, or sociality, if English
Root (Original Poster) Features	
$views_{0,k}$	Number of users who saw the original photo until the $k$ th reshare was posted
$orig\_is\_page$	Whether the original poster is a page
$outdeg(v_0)$	Friend, subscriber or fan count of the original poster
$age_0$	Age of the original poster, if a user
$gender_0$	Gender of the original poster, if a user
$fb\_age_0$	Time since the original poster registered on Facebook, if a user
$activity_0$	Average number of days the original poster was active in the past month, if a user
Resharer Features	
$views_{1..k-1,k}$	Number of users who saw the first $k-1$ reshares until the $k$ th reshare was posted
$pages_k$	Number of pages responsible for the first $k$ reshares, including the root, or $\sum_{i=0}^k 1\{v_i \text{ is a page}\}$
$friends_k^{avg/90p}$	Average or 90th percentile friend count of the first $k$ resharers, or $\frac{1}{k} \sum_{i=1}^k outdeg_{friends}(v_i) 1\{v_i \text{ is a user}\}$
$fans_k^{avg/90p}$	Average or 90th percentile fan count of the first $k$ resharers, or $\frac{1}{k} \sum_{i=1}^k outdeg(v_i) 1\{v_i \text{ is a page}\}$
$subscribers_k^{avg/90p}$	Average or 90th percentile subscriber count of the first $k$ resharers, or $\frac{1}{k} \sum_{i=1}^k outdeg_{subscriber}(v_i) 1\{v_i \text{ is a user}\}$
$fb\_ages_k^{avg/90p}$	Average or 90th percentile time since the first $k$ resharers registered on Facebook, or $\frac{1}{k} \sum_{i=1}^k fb\_age_i$
$activities_k^{avg/90p}$	Average number of days the first $k$ resharers were active in July, or $\frac{1}{k} \sum_{i=1}^k activity_i$
$ages_k^{avg/90p}$	Average age of the first $k$ resharers, or $\frac{1}{k} \sum_{i=1}^k age_i$
$female_k$	Number of female users among the first $k$ resharers, or $\sum_{i=1}^k 1\{gender_i \text{ is female}\}$
Structural Features	
$outdeg(v_i)$	Connection count (sum of friend, subscriber and fan counts) of the $i$ th resharer (or out-degree of $v_i$ on $G = (V, E)$ )
$outdeg(v'_i)$	Out-degree of the $i$ th reshare on the induced subgraph $G' = (V', E')$ of the first $k$ resharers and the root
$outdeg(\hat{v}_i)$	Out-degree of the $i$ th reshare on the reshare graph $\hat{G} = (\hat{V}, \hat{E})$ of the first $k$ reshares
$orig\_connections_k$	Number of first $k$ resharers who are friends with, or fans of the root, or $ \{v_i \mid (v_0, v_i) \in E, 1 \leq i \leq k\} $
$border\_nodes_k$	Total number of users or pages reachable from the first $k$ resharers and the root, or $ \{v_i \mid (v_i, v_j) \in E, 0 \leq i, j \leq k\} $
$border\_edges_k$	Total number of first-degree connections of the first $k$ resharers and the root, or $ \{(v_i, v_j) \mid (v_i, v_j) \in E, 0 \leq i, j \leq k\} $
$subgraph'_k$	Number of edges on the induced subgraph of the first $k$ resharers and the root, or $ \{(v_i, v_j) \mid (v_i, v_j) \in E', 0 \leq i, j \leq k\} $
$depth'_k$	Change in tree depth of the first $k$ reshares, or $\min_{\beta} \sum_{i=1}^k (depth_i - \beta)^2$
$depths_k^{avg/90p}$	Average or 90th percentile tree depth of the first $k$ reshares, or $\frac{1}{k} \sum_{i=1}^k depth_i$
$did\_leave$	Whether any of the first $k$ reshares are not first-degree connections of the root
Temporal Features	
$time_i$	Time elapsed between the original post and the $i$ th reshare
$time'_{1..k/2}$	Average time between reshares, for the first $k/2$ reshares, or $\frac{1}{k/2-1} \sum_{i=1}^{k/2-1} (time_{i+1} - time_i)$
$time''_{k/2..k}$	Average time between reshares, for the last $k/2$ reshares, or $\frac{1}{k/2-1} \sum_{i=k/2}^{k-1} (time_{i+1} - time_i)$
$time'''_{1..k}$	Change in the time between reshares of the first $k$ reshares, or $\min_{\beta} \sum_{i=1}^{k-1} (time_{i+1} - time_i) - \beta)^2$
$views'_{0,k}$	Number of users who saw the original photo, until the $k$ th reshare was posted, per unit time, or $\frac{views_{0,k}}{time_k}$
$views'_{1..k-1,k}$	Number of users who saw the first $k-1$ reshares, until the $k$ th reshare was posted, per unit time, or $\frac{views_{1..k-1,k}}{time_k}$

Table 1: List of features used for learning. We compute these features given the cascade until the  $k$ -th reshare.