Chic or Social: Visual Popularity Analysis in Online Fashion Networks

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328K fashion blog posts

Image  Date  Tags  Comments

Can we reason about the votes?

Social data

26 Friends
29 Following
552 Followers

In-network popularity

• Chictopians’ votes
• Social network
• 328K posts

Out-of-network popularity

• Crowdsourced votes (AMT)
• No social network
• 3,000 posts x up to 25 votes

Modeling posts

– how much does each factor matter?

Social factors

• User identity
• Previous posts
• Node degrees

Content factors

• Tag TF-IDF
• Color entropy
• Image composition
• Style descriptor

Other

• Date bias

In-network

Regression R²  Prediction accuracy
Votes  Log-votes  Top-25%  Top-75%
Social  0.372  0.491  0.847  0.779
Content  0.142  0.252  0.782  0.736
Both  0.341  0.493  0.844  0.776

Out-of-network

Regression R²  Prediction accuracy
Votes  Log-votes  Top-25%  Top-75%
Social  0.423  0.845  0.787
Content  0.395  0.869  0.836
Both  0.475  0.884  0.857

• Significant social influence in network but not necessarily out of network.
• Are social and content evaluating different aspect of posts?
• Predicting top pictures are consistently easier than not popular pictures.

Application

• Automatic style feedback
• Estimating unbiased rating
• Web-traffic estimation
• Trend analysis

Predicted popular

Predicted NOT popular

www.chictopia.com