We are the global cybersecurity leader, known for always challenging the security status quo. Our mission is to protect our way of life in the digital age by preventing successful cyberattacks.

- Over 85 of the Fortune 100 and more than 63% of the Global 2000 rely on us to improve their cybersecurity posture.
- Partnered with elite leaders, such as Accenture, Amazon Web Services, Google, Microsoft, ...
- Global support organization (Americas, EMEA, Asia and Japan) recognized for exceptional services
- Named on Fortune Magazine’s Top 50 companies changing the world
- Ranked #1 as “best place to work” in the Bay Area by SF Business Times (2016).

https://www.paloaltonetworks.com/company/about-us
EVENT AD AUTOMATION
THE SITUATION

2 people managing paid online advertising

140+ events being promoted at any given moment

Events are loaded by multiple, globally-dispersed individuals

4 different methods of event management

Not all events are gated, but we can only promote those that are

Differing occupancy limits, importance, and frequency
THE SETUP

- Consumable Feed of Events
- Cleanup
- Export Paths
- Analysis
- Templates
- Business Rules
CONSUMABLE FEED

Web team translates the feed into an Excel

KNIME picks it up from the FTP

File is dropped into an FTP location

Data is pre-processed
Location Grouping

- Enough locations to meet occupancy limit

Channel Appropriateness

- Topic and event type affect which channels are most efficient

Aggression Leveling

- The faster we need to get leads, or harder it will be, the more campaigns we need to upload the ads in
TEMPLATES

Rule Engines

Constant Values

String Manipulation

10 Languages, 3 Ad Formats, 7 Event Types
EXPORT PATHS

Google Sheets
- Google Feed for AdWords Search
- Google Docs for AdWords Display
- Emails

Google Scripts
- Run Daily to Import Display Ads
- Run Hourly to Remove Expiring Events
- Run Daily to Send Emails

Email
- To Deliver LinkedIn Ads to Rep
- To Deliver Daily Report for Ad Team

Database
- To Maintain List of Active Ads
- To Maintain List of Previous Ads for Reporting
<table>
<thead>
<tr>
<th>CLEAN UP</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expired</strong></td>
<td>Daily feed complete refresh via the Google Sheet push</td>
</tr>
<tr>
<td></td>
<td>Google Script will delete ads hourly if the event is close to occurring</td>
</tr>
<tr>
<td></td>
<td>An expiration date is included in the emailed attachment sent to the LinkedIn rep and internal manager for verification</td>
</tr>
<tr>
<td><strong>Sold Out</strong></td>
<td>Send email to LinkedIn Rep and internal manager</td>
</tr>
<tr>
<td></td>
<td>Use reference database table to identify Google Display ads to find and delete via the automated script</td>
</tr>
<tr>
<td></td>
<td>Pre-filter from the Google Search daily feed refresh</td>
</tr>
</tbody>
</table>
THE RESULTS

Over 1,300 events supported via automation

Personalized experiences in multiple channels

Reduction of cost per registrant by 92.9%

Total time required per run: 48 seconds

Time Saved: 122 8-hour Days

Ad Savings: $2,899,000 (assuming 10 registrants per event)
THE LESSONS

When there are hundreds of relevant messages, prioritization business rules are critical.

Unreliable quality of event entry necessitates a topic-based, templated approach.

Even a highly variable messaging mix can allow for a long-term optimization win.
KEYWORD DISCOVERY AND GROUPING
THE OBJECTIVE

Increase Reach

Improve Relevance

Decrease Costs

Manage Complexity
THE METHOD

Get Data

- Search engine query stats
- Site text mining
- Existing relational structures

Standard Topic Detection

- N-grams
- Vectorization
- TF-IDF
- K-means

Significant Terms Isolation

- Longer phrases are more important
- Performance matters

Best Fit Page for Term

- Create a topography per page
- Assign most relevant page to term

Export Path

- Google Sheets
- Google Scripts
- Emails
THE STANDARD STUFF
ISOLATING SIGNIFICANT TERMS – AN ADVERTISING APPROACH

Efficiency

• Objective-based metrics
• Reach is a critical minimum

Long-tail vs Head Terms

• Shorter terms, while more frequent and significant, may not be good for advertising
ISOLATING SIGNIFICANT TERMS – AN ADVERTISING APPROACH

Illustration – numbers are not actuals

<table>
<thead>
<tr>
<th>TERM</th>
<th>ROI</th>
<th>POTENTIAL COST</th>
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<tbody>
<tr>
<td>cloud security for AWS</td>
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<td>$150,000</td>
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<tr>
<td>cloud</td>
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</tr>
</tbody>
</table>

Cloud Security

Cloud-based Data Security

Secure the Cloud

Secure Cloud Platform Enablement

Network Security

Securing Users on the Network

Enterprise Network Protection

Security for Virtualized Networks
ISOLATING SIGNIFICANT TERMS – AN ADVERTISING APPROACH
CROSS-PLATFORM OBJECTIVE BALANCING
PERSONA-BASED MAPPING EVERYWHERE
CONTENT RECOMMENDATIONS
THANK YOU

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