PRIMER

Overview Presentation

March 2018

Primer: **Overview**

Primer is a venture backed San Francisco based machine intelligence company that uses machine learning and natural language processing to automate the analysis of large datasets. We build systems that read documents, make insights and write reports comparable to those of a human analyst.

Primer has raised $15 million in financing from top-tier venture capital funds such as Data Collective, Lux Capital, IQT, and Bloomberg Beta.

Primer: **Team**

36 of 47 employees are engineers

Deep **ML/NLP** Experience

8 PhDs

Diverse Expertise:
- Stanford AI and Statistics
- Computational Biology
- Chemistry
- Astrophysics
- Social Media Analysis
- Data journalism
- Data visualization

Primer: **Products and Use Cases**

Government	Synthesis, summarization, and analysis of news data and proprietary unstructured/structured text data within a government's firewall/data center	IQT IN·Q·TEL
Financial Services	Analysis of equities and finance reports/filings Organizational monitoring and alerting Supplier and supply chain risk	GIC
Fortune 50	Consumer insights and macro trends Media monitoring of company and competition Email and document analysis and classification	Walmart

Core Capabilities

MEDIA COVERAGE OF СИРИЯ (SYRIA) FEB-APR 2017
17,483 Russian and 19,585 English documents analyzed, CPU time 112s

Natural Language Generation

Overview

Russian and English media coverage of Syria **differed significantly** between 1 February and 31 March 2017. In Russian media, the most defining event was "Putin says 4000 Russians fighting in Syria" on 23 February. "Unfortunately Syria has accumulated a huge number of militants, natives of the former Soviet Union and of Russia itself," Russian President Vladimir Putin was quoted as saying. English media, meanwhile, was dominated by the events "Trump's new Travel Ban Executive Order" and "Al Qaeda leader Abu al Khayr al-Masri killed in US drone strike."

Key Events

Event Detection

Quote Detection

Russian media coverage peaked with a cluster of events starting 20 February which included "**Four Russian military killed in Syria**" and "Another Russian soldier killed". The second most dominant Russian-only event was "**Military police from Ingushetia will replace Chechens in Syria**" on 13 February. Ingushetia President Yunus-bek Yevkurov was quoted as saying, "A military police battalion serving the Ministry of Defense of the Russian Federation has been sent from Ingushetia to the Syrian Arab Republic with a peacekeeping mission." The key number for this event was "300 soldiers".

Locations

Geolocation

Topic Analysis

Syria, particularly **Damascus** and **Al-Bab**, dominated both English and Russian media. But Russian coverage included major events elsewhere. The Russian-only media topic with the most global spread was "FSB and Courts", which included the events "Migrants detained on **Sakhalin** for conspiring to aid ISIS", "Russian police detain **Kyrgyz** and Russian citizens in terrorism plot", and "Seven detained in **Chechnya** attempting to join ISIS in Syria." In the most widely cited quote, Putin said, "Given the fact that we have a visa-free regime between almost all the countries of the former Soviet Union, we understand what a great danger lurks in this hotbed of terrorism."

Detail of locations for the topic "FSB and Courts"

People

Entity Detection

Affiliation Detection

Diff Engine

The person most frequently quoted only by Russian media was Russian Minister of Defense **Sergey Shoygu**. He is associated with the event "Shoygu: Russia saved Syria from disintegration" and was quoted as saying: "The main event of last year was the liberation of Aleppo, considered the second capital of Syria and the largest industrial center. This victory has not only military, but also the most important political significance for the whole country." The person most often quoted with Shoygu was **Putin**, who said, "We do not set for ourselves the task of interfering in the internal affairs of Syria. Our objective is to stabilize the country's legitimate government and to deliver a decisive blow to international terrorism." The most prominent person in English media never quoted by Russian journalists in this period was US President Donald Trump.

Key Stats

172 total events detected in this period	**25** events covered by both media
71 events covered only by the English media	**76** events covered only by the Russian media

Information Extraction

Extract and resolve a wide variety of information from unstructured text

Topic Detection	Emotion (Sentiment / Anger)
Event Detection & Classification	Numbers
Named Entities (People, Orgs, Locations)	Dates
People Affiliations	Acronyms/Jargon

Information Retrieval
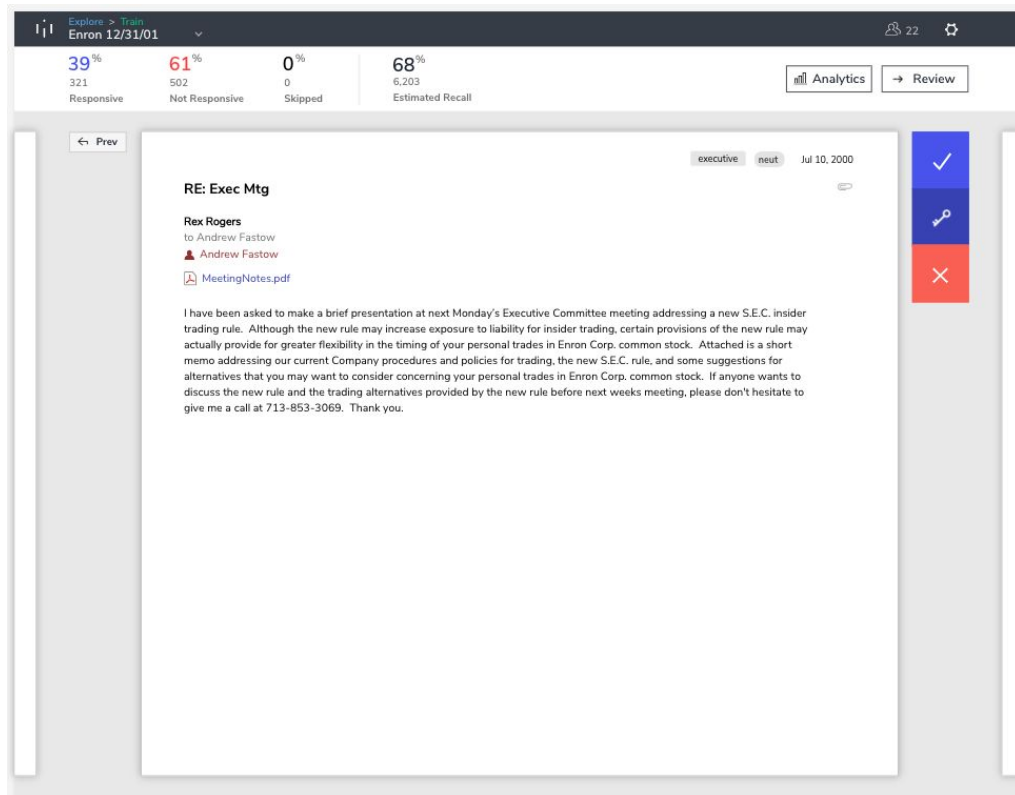
We have a range of search capabilities including:

1. Entity Based Search
2. Query Expansion / Reduction
3. Semantic Search

Human-In-The-Loop

We've built out active learning, semi-supervised learning, and distant supervision capabilities to maximize the value of human-in-the-loop interactions

Narrative Generation

1. Summarization (abstractive and extractive)
   a. Single Document
   b. Multi-Document
2. Time Series Analysis
3. Geographic analysis
4. Information Visualization
5. Cross Language Corpus Comparison

Consumer Insights

Walmart

February 12, 2018

More Consumers to Show Their Love With Candy This Valentine's Day

Summary

With 55 percent of the population celebrating this year, spending will increase from last year's $136.57. In total, spending is expected to reach $19.6 billion, up from $18.2 billion in 2017. "Americans are looking forward to pampering and indulging their loved ones with flowers, candy, dinner and all of the other Valentine's Day stops," NRF President and CEO Matthew Shay said. More consumers plan on purchasing candy this year, with 55 percent (up from 50 percent in 2017) saying they will give gifts of candy for a total of $1.8 billion.

Key Findings

If U.S. consumers had to put a price tag on their affections this Valentine's Day, it would equate to an average of $143.56, according to the National Retail Federation (NRF) and Prosper Insights & Analytics.

Even those foregoing Valentine's Day festivities won't be left out: more than a quarter (27 percent) of consumers who are not observing the holiday have an alternative in mind such as treating themselves in some way, or getting together with family and friends.

Key Numbers

When it comes to what gifts consumers plan to spend money on, 19 percent will spend $4.7 billion on jewelry; 35 percent will spend $3.7 billion on an evening out; 36 percent will spend $2 billion on flowers; 17 percent will spend $1.9 billion on clothing; 15 percent will spend $1.5 billion on gift cards/gift certificates; and 46 percent will spend $894 million on greeting cards.

The NRF and Prosper Insights & Analytics survey was conducted Jan. 3-10, polling 7,277 consumers about their Valentine's Day plans.

Perspectives

"In America, the chocolate market enjoys incredible mass appeal, attracting everyone from high-end chocolate connoisseurs to the proverbial kids in a candy store to the amorous crowd purchasing sweets for their sweethearts or even themselves during Valentine's Day." - **David Sprinkle**, research director for Packaged Facts

"Valentine's Day has become a holiday consumers take advantage of not only to spoil their loved ones but themselves." - **Phil Rist**

Example Outputs

Consumer Insights

Walmart

February 12, 2018

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Corporate Media Monitoring

Walmart

Trump wants to deliver Blue Apron-style 'America's Harvest Box' to food-stamp recipients

This event appeared on February 12, 2018 and was broadcast in 108 articles.

Summary
Under the proposal, households receiving $90 or more a month in SNAP benefits would be given the box of food, which would be 100% American grown. An estimated 42 million people, or roughly 13% of Americans, receive food stamps, according to the USDA. The reformed program, which includes the so-called "America's Harvest Box" that households getting more than $90 a month in SNAP benefits would receive, would save an estimated $214 billion over a decade , according to the administration's budget.

Article Total Social Sharing By Publication Date
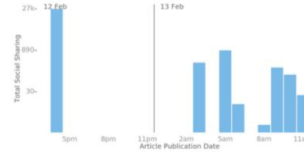
Readership Demographics

Event Statistics
- appeared on February 12th 2018 with 108 articles (13 unique)
- shared 28.4k times and ranked 12th of 184 events in the last month
- the largest of two events in the topic "Blue Apron & Trusz"
- new since last view and occurred in the last 48 hours
- driven by the people Donald Trump and Mick Mulvaney
- is predicted to grow by at least 12 unique articles in the next 20 hours

Numbers

at least $90 51 occurrences
Families who would get the box of food would be ones who currently get **at least $90** a month.

$125 41 occurrences
SNAP provides an average of **$125** per month to 42.2 million Americans.

more than $213.5 billion 41 occurrences
Trump's budget proposal calls for additional cuts of **more than $213.5 billion** over the next decade to SNAP, a reduction of nearly 30 percent, according to the Center on Budget and Policy Priorities.

Generated Wikipedia Profile: Janet Kelso

Janet Kelso is a computational biologist at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany.[1] Kelso's research focuses on the functional importance of genes inherited from archaic humans. She has authored 513 papers that have been cited 21,511 times.[2]

Kelso led a study[3] published 7 January 2016 in the American Journal of Human Genetics that was extensively covered by the media. Kelso's team scanned the genomes of modern day humans for evidence of Neanderthal or Denisovan genes and then looked at how common they were in people from around the world. Among the three immune system genes that stood out, two closely matched Neanderthal DNA.[4] The archaic variants of these genes make modern human cells more reactive to invading bacteria, fungi, and parasites. People with the borrowed toll-like receptor (TLR) clusters tend to have elevated allergies to dust and pollen.[5] The discovery sheds light on how much human breeding with other early species may have affected our evolution.[6]

1. "Neandertal DNA may raise risk for some modern human diseases," Science News Online, 2 February 2016

2. "Janet Kelso" results from Semantic Scholar, accessed 18 July 2017

3. M. Deschamps et al., "Genomic signatures of selective pressures and introgression from archaic hominins at human innate immunity genes,"
   The American Journal of Human Genetics, doi:10.1016/j.ajhg.2015.11.014, 2016.

5. "Human-Neanderthal relationships may be at root of modern allergies," The Guardian, 7 January 2016

6. "Borrowing Immunity Through Interbreeding," The Scientist, 7 January 2016

7. "Allergies? Blame sex with Neanderthals," The Satellite, 12 January 2016

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Thank you!

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