



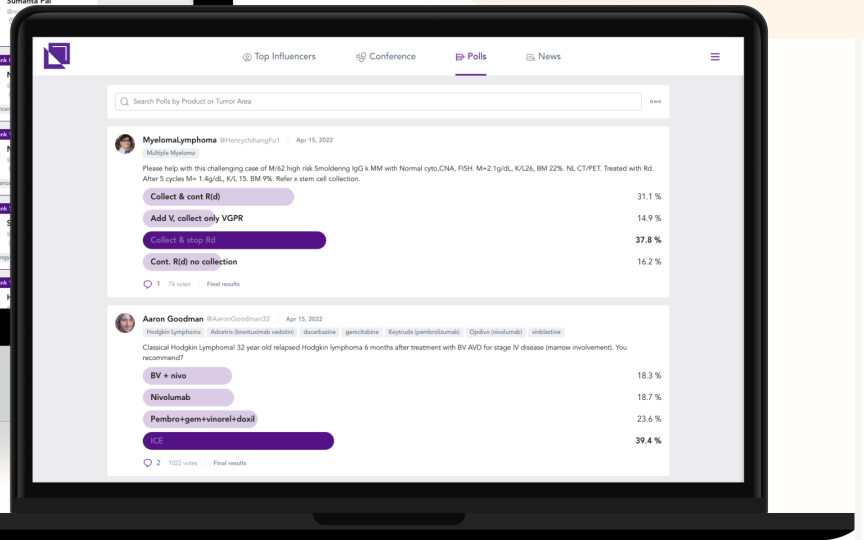
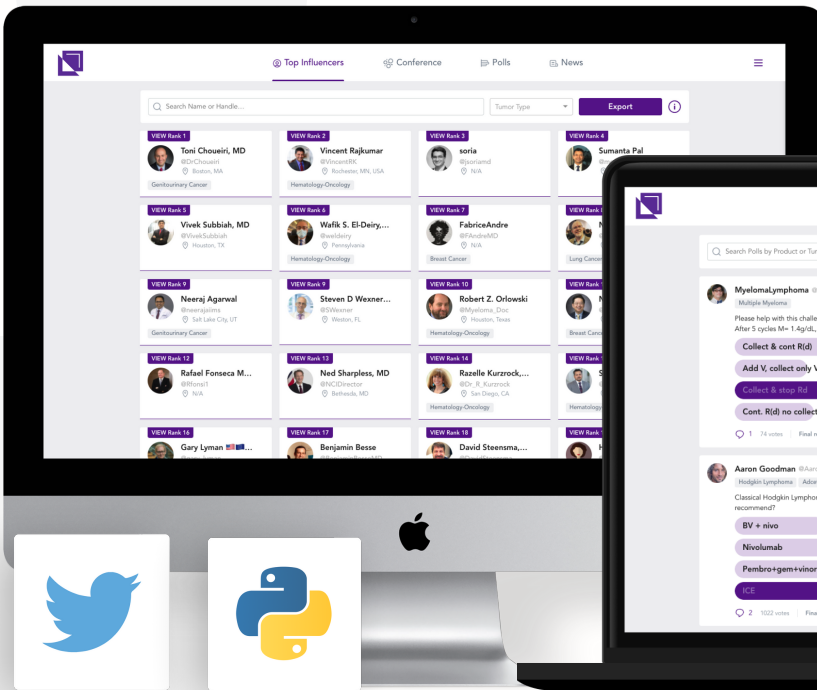
# Case Study

**Tweets driven market  
intelligence solution for  
pharma industry**

CASE STUDY



Build centralized digital platform which curates views of Key Opinion Leaders in the health care and life science domain from 25,000 sources and distills the most relevant findings using concise reports



## Services Used

- Managed Engineering Teams
- Progressive Web App Development
- API Integration And System Integration
- Micro Services Architecture And Development
- CI/CD Implementation And Management

## Technology Stack

AWS Lambda

AWS RDS

Python - Django

Ruby on Rails

PostgreSQL

AWS ECS

Angular

PHP



# Challenges

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Capturing and analysing millions of raw tweet data of KOLs based on multiple factors and sentiments to provide real-time insights and time-saving analysis

## Curating highly relevant tweet data

Implementing data-retrieval mechanism to retrieve millions of tweets of 1000s of Influencers by using certain keywords or hashtags

## Optimizing database performance

Performance tuning of constantly growing database of Tweet data with scalability and backup and restore strategy in mind

## Implementing scalable microservices architecture

Designing Micro-services based architecture to **translate millions of Tweet data into desired structure** to enable strategic decision making

## Data security for cross functional team

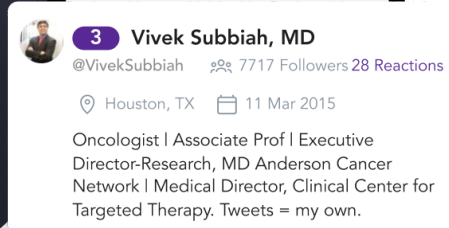
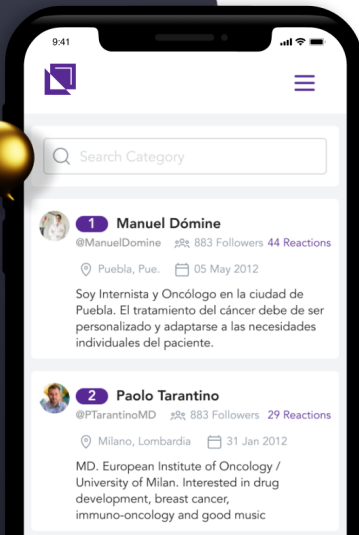
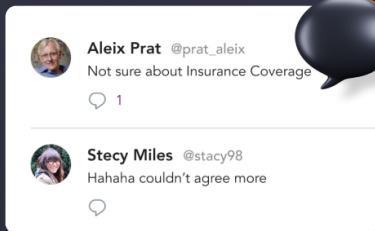
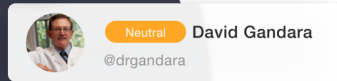
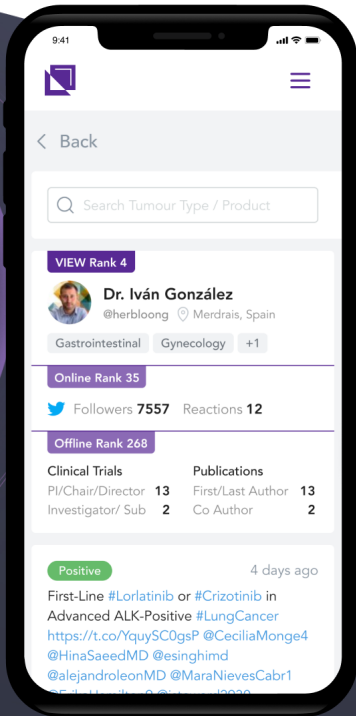
**Protecting the data, code,** or other confidential information in remote working environment for cross functional team

# Our Solution

Adopting the agile methodologies to achieve the given timeline and furnishing **real-time analytical solutions by churning big data** to achieve the desired results has been the USP of the solutions delivered.

Our team successfully overcame the challenge to keep the data up-to-date, real-time as a huge chunk of data was being captured by the system at regular intervals via APIs.

Our team coherently optimized the database for security and reduced response time that was a critical aspect to seamlessly functioning of the solution.





Simform provided us with three full stack developers. We are quite happy with the quality of work and results.



**Aleix Prat** @prat\_aleix  
Not sure about Insurance Coverage  
1

**Stecy Miles** @stacy98  
Hahaha couldn't agree more

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<b>VIEW Rank 4</b> <b>Paolo Tarantino</b> @herbloong Merdris, Spain Gastrointestinal Gynecology +1 Online Rank 35 Followers 7557 Reactions 12 Offline Rank 268 Clinical Trials PI/Chair/Director Investigator/ Sub 13 2 Publications First/Last Author Co Author 13 2	<b>VIEW Rank 4</b> <b>Stephen V Liu</b> @herbloong Merdris, Spain Gastrointestinal Gynecology +1 Online Rank 35 Followers 7557 Reactions 12 Offline Rank 268 Clinical Trials PI/Chair/Director Investigator/ Sub 13 2 Publications First/Last Author Co Author 13 2	<b>VIEW Rank 4</b> <b>Benedikt Westphale</b> @herbloong Merdris, Spain Gastrointestinal Gynecology +1 Online Rank 35 Followers 7557 Reactions 12 Offline Rank 268 Clinical Trials PI/Chair/Director Investigator/ Sub 13 2

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25 Nov 2020  
**Bristol Myers Squibb** Receives European Commission Approval for Opdivo (nivolumab) plus Yervoy (ipilimumab) with Two Cycles of Chemotherapy in First-Line Treatment of Metastatic Non-Small Cell Lung Cancer (Businesswire)

**Positive** Manuel Dómine @ManuelDomine 875 Followers • Madrid, Spain  
Good news: BMS Receives European Commission Approval for nivolumab + ipilimumab + 2 cycles of Chemotherapy for 1st-line of Metastatic based on CheckMate -9LA trial. <https://t.co/HmaMTRvY0u> Another option as 1st-line, superior OS regardless PD-L1. #LCSM @OncoAlert @AEACaP

**Positive** Gil Morgan @weoncologists 11554 Followers • Sweden  
Announces KEYNOTE-598 Trial Evaluating KEYTRUDA (pembrolizumab) in Combination With Ipilimumab Versus KEYTRUDA Monotherapy in Patients With Metastatic Non-Small Cell Lung Cancer To Stop for Futility and Patients to Discontinue... (Businesswire)  
KEYNOTE-598 Trial Evaluating KEYTRUDA (pembrolizumab) in Combination With Ipilimumab or Placebo in Participants With Untreated Metastatic Non-small Cell Lung Cancer (475-598/KEYNOTE-598)

**Positive** Gil Morgan @weoncologists 11554 Followers • Sweden  
KEYNOTE-598 Update Addition of ipilimumab to Pembrolizumab does not add clinical benefit but adds toxicity!! 🟢Pembro mono remains standard of care in certain patients w/metastatic non-small cell #LungCancer whose tumors express PDL1 #NSCLC #LCSM <https://t.co/T7e47LvUj> <https://t.co/PoavS7XWCG>

**Neutral** Nathan A. Pennell MD, PhD, FASCO @npennell 10037 Followers • Cleveland, OH  
I find this unsurprising but answers a very important question. Just like melanoma, for PDL1 high the addition of CTLA-4 may not be helpful. Looking for actual data! #LCSM <https://t.co/QC26g2yDz>

**Negative** Dr. Antonio Calles @Tony\_Calles 8214 Followers • Cleveland, OH  
#DMSLung Disturbing result!

**Neutral** Sandip Patel MD @PatelOncology 7070 Followers • San Diego, CA  
#RenoHemone: KN598 is PD-L1<50% only so I think this data suggests adding aCTLA4 has its most intriguing activity in PD-L1<1%

**Neutral** David Gandara @dgandara 5474 Followers

# Our Solution

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## 1 **Integrated API to capture data at regular intervals**

Integrated Twitter Historical PowerTrack API that provides access to the entire historical archive of public Twitter data. We designed system to **capture this data in batches of 500 tweets every 2 hour** keeping the data up to date.

## 2 **Optimized database for reduced response time**

Optimized PostgreSQL database hosted on AWS RDS to reduce query response time for displaying KOL feed data through proper indexing, avoiding correlated sub-queries, and wise use of temp tables.

## 3 **Distinguishing tweets from retweets through script**

Utilised AWS lambda for running **Python scripts that automatically filters original tweets** from retweet and reply data to derive the sentiments of KOLs towards any clinical research work

## 4 **An added layer of security and role based access in Coding environment**

Provided secure coding environment by following certain practices using Bcrypt when storing passwords, Filter sensitive information from logs, Grant the least privileges required.

# We are Simform

Simform is a leading digital product engineering company. Over the last decade, our world-class tech teams have refined engineering practices for Fortune 1000 companies and successful startups.

Let's get in touch to extend your tech team with top talent!

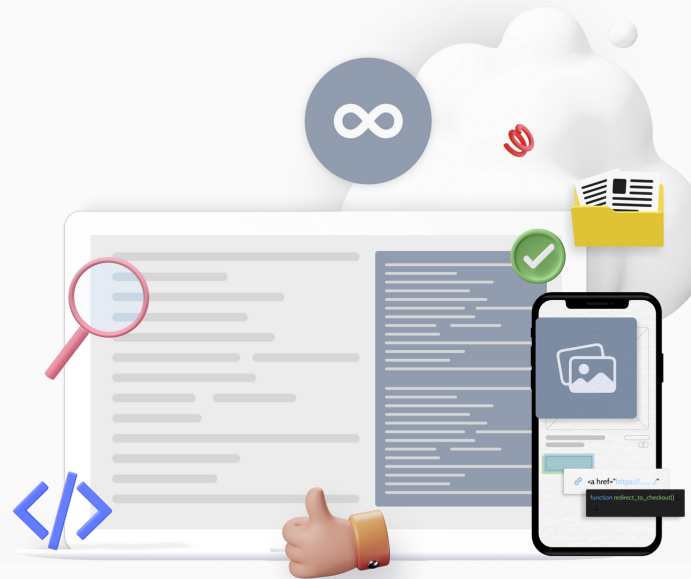
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