



PUBLIC INSIGHT[®]

Insight for Work (IFW) Release Notes

August 2021 Update

Employer Sentiment and Opinion Mining

The July release introduced extensive enhancements in the employer branding area. August continues our commitment to making this a strong area of analysis. We believe that employers that pay attention to their brand and market positioning will be best equipped to win the increasingly intense war for talent.

The July release introduced sentiment analysis and August greatly expands this as well as adding opinion mining. This data comes from the powerful Microsoft Cognitive Services [Text Analytics API](#).

Sentiment Analysis (SA)

The July release provided a single sentiment score expressed as a percentage. In the August release, we now provide the original sentiment confidence score as a decimal at the review and sentence level. Sentiment score is based on a total score which adds to 1.

- Positive sentiment
- Negative sentiment
- Neutral sentiment

Reviews are then averaged and reported across the standard category components:

- Job title
- Occupation (SOC)
- Region (State, MSA)
- Employer
- Industry (NAICS)
- Industry (InsideView)

In the example below, Advanced Urology Institute has an overall sentiment at the employer level weighted towards the negative with the highest number of reviews coming from Medical Assistants.

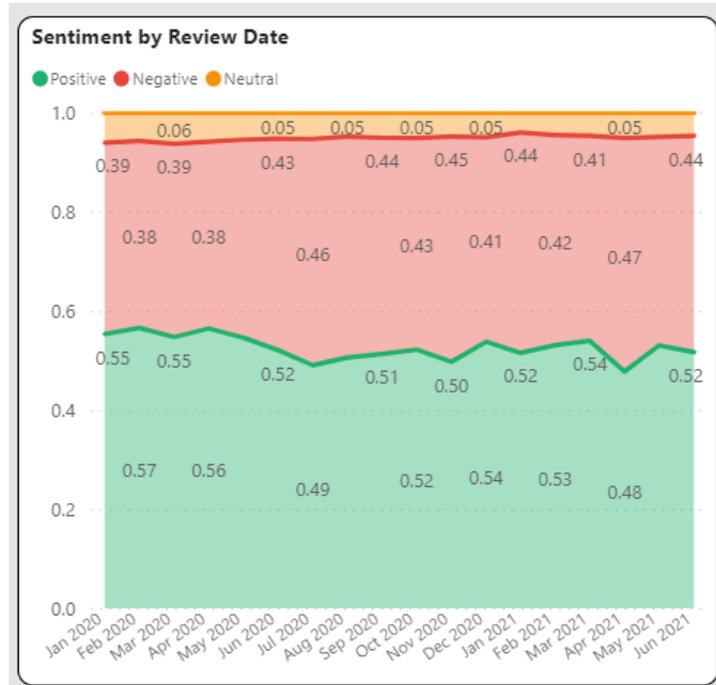
Employer Sentiment Scores by Employer and Title

Company Name	Positive	Negative	Neutral	Count
Advanced Urology	1.00	0.00	0.00	1
Advanced Urgent Care	0.97	0.00	0.03	1
Advanced Urology	0.00	1.00	0.00	1
Advanced Urology Institute	0.38	0.56	0.06	33
Administrative Assistant	0.90	0.01	0.09	1
Assistant Medical Assistants	0.43	0.55	0.02	8
Billing Typist	0.52	0.47	0.02	2
Customs Collector	0.00	0.94	0.06	1
Front Desk Associate	0.30	0.63	0.07	1
Front Desk Receptionist	0.57	0.40	0.03	3
IT Manager	0.12	0.03	0.85	1
Lab Technician (Lab Tech)	0.02	0.92	0.06	1
Laboratory Assistant (Lab Assistant)	0.00	1.00	0.00	1
Licensed Practical Nurse (LPN)	0.00	1.00	0.00	1
Medical Assistant (MA)	0.24	0.67	0.09	1
Medical Billing Specialist	0.44	0.50	0.07	2
Medical Receptionist	1.00	0.00	0.00	1
Office Employee	0.12	0.87	0.01	1
Patient Service Representative	0.02	0.96	0.02	1
Phone Operator	0.43	0.53	0.04	1
Receptionist	0.51	0.50	0.00	2
Registered Medical Assistant (RMA)	0.14	0.82	0.04	1
Surgery Scheduler	0.12	0.84	0.05	2
Telephone Operator	0.99	0.00	0.01	1
AdvantaCare	0.56	0.38	0.06	6

Sentiment scores are further calculated and displayed for each individual sentence. You can drill through to the detailed sentence structure (see below).

Sentiment analysis reveals what people think of your company by mining the text for clues about positive or negative sentiment. The feature provides sentiment labels (such as "negative", "neutral" and "positive") based on the highest confidence score found by the service at a sentence and review. This feature also returns confidence scores between 0 and 1 for each document & sentences within it for positive, neutral and negative sentiment.

Sentiment scores can be analyzed over time to get a picture of whether the sentiment is improving. Use business intelligence interactions to explore which components of reviews are trending favorably.



Opinion Mining (OM)

Opinion mining is a feature of Sentiment Analysis. Also known as Aspect-based Sentiment Analysis in Natural Language Processing (NLP), this feature provides more granular information about the opinions related to words (such as the attributes of products or services) in text. Opinions are surfaced from the text through associating a subject and one or more adjectives. For example, consider the following sentence from an actual review:

“Great place to work with excellent benefits”

There are two subjects in this short sentence:

- Place which is great
- Benefits which are excellent

In this case, the overall sentence is very positive (had a positive sentiment score of 1.0) and the two positive opinions were regarding the place and the benefits.

Opinions are aggregated as counts at the sentence level and the review level. For example, Encompass Health, an employer had multiple positive mentions associated with the subject of “place”.

Subject	Adjectives	Review Count	Sentence Count
place	great	5	5
place	good	4	4
benefits	good	2	2
place	nice	2	2
place	okay	2	2
culture	worsened	2	2
company	amazing	1	1

Opinions like sentences are aggregated up to the same primary reporting categories (e.g., title, occupation, industry). You can use keyword searches and sentiment filters to understand exactly what components of the employer reviews are positive and which are negative.

The power of analyzing opinions is further enhanced through business intelligence drill-down, drill-around, and drill-through technologies. For example, you can click in the opinion table above a particular combination of subjects and adjectives and get which titles, regions, or employers are reporting the combination. Drill down further to see the actual context of the opinion.

Drill Through to Sentiment and Opinions

From any relevant data point you can drill through to sentiment and opinion detail. For example, you might highlight open postings for a region and want to get a sense of employer sentiment for those titles.

Drill Through Sentiment and Opinions

Browse Sentences

Raw Title	Company Name	Review Date	Sentence	Positive	Negative	Neutral
cna	Cleveland Clinic Indian River Hospital	08/13/20	- A move was made to up the min wage and it did not benefit all lower paid workers accordingly.	0.00	1.00	0.00
cna	Cleveland Clinic Indian River Hospital	08/13/20	- Changing departments is a griding teeth process.	0.01	0.03	0.96
cna	Cleveland Clinic Indian River Hospital	08/13/20	- Creating more red tape to cut creates a desire to leave and work elsewhere.	0.05	0.03	0.92
CNA/CMA	Heritage Communities	01/19/20	- Deleting your o.t.	0.02	0.63	0.35
cna	Cleveland Clinic Indian River Hospital	08/13/20	- If you made less before the changed wage, it was a positive.	0.90	0.06	0.04
cna	Cleveland Clinic Indian River Hospital	08/13/20	- If you were already making that wage, nothing changed.	0.04	0.31	0.65
cna	Cleveland Clinic Indian River Hospital	08/13/20	- It was an unfair leveling of a playing field in relation to wages, rather than a sliding scale due to skill and experience.	0.00	1.00	0.00
CNA - Certified Nursing Assistant	Norwood Crossing	06/05/20	- Most employees are kind and caring.	0.99	0.00	0.01
CNA - Certified Nursing Assistant	Medlodge	03/27/21	- oh several covid scares due to poor testing	0.00	1.00	0.00
cna	Cleveland Clinic Indian River Hospital	08/13/20	- Positions of skilled, certified, and requirements of higher education are making the same wage as positions with no requirements of certifications or any further education.	0.03	0.06	0.91
Certified Nurse Assistant (CNA)	Clipboard Health	05/16/21	- seem to have plenty of work available - but there are times when they do seem a bit sparse -- they are very eager to help with questions - I've only just started in March so I'm hopeful it will be a great experience!	1.00	0.00	0.00
cna	Cleveland Clinic Indian River Hospital	08/13/20	- Staff shortage, lack of coverage	0.06	0.74	0.20
CNA - Certified Nursing Assistant	Cedarhurst	02/17/21	- The pay is extremely low -the management makes false promises on raises -they mess with your hours -if you're on night shift you get stuck	0.03	0.97	0.00

Subjects and Adjectives

Subject	Adjectives	Review Count	Sentence Count
place	great	723	744
place	good	558	569
staffed	short	313	319
company	great	234	235
Management	care	223	224
Management	poor	182	186
company	good	173	175
Management	horrible	173	174
place	horrible	162	162
place	nice	155	157
staff	short	142	147
place	worst	143	143
staff	care	129	129
staff	great	128	128
pay	good	125	126
residents	love	125	126
place	recommend	116	116
Management	terrible	112	113
residents	great	112	113
Total		13,322	24,906

Positive Score (e.g., >5)

Subject

OR

Adjectives

OR

Usability Improvements

Employer Reviews

In addition to the text analytics enhancements, we have also incorporated additional information where employer reviews are displayed:

- Review title
- Pros
- Cons
- Review URL (click to show the URL)

Ratings and Reviews Page Design

We have simplified the page design to show ratings and reviews as the primary topics with various sources as sub-topics. For example, ratings have separate buttons for Happiness Survey or Glassdoor ratings.

Clean Title Scrubbing

There are over 130,000 unique titles in the Clean Title database. Some of those are clearly redundant. We have taken steps to now further clean these titles. This will be part of an ongoing process.

- Singular and plural variations of the same title are now combined
- Obvious titles that are the same are now combined (e.g., CDL Class A Driver)

The Clean Title table now also has an Active column to distinguish an active title vs. a deprecated title.

Data Updates

This August release notes now also captures key dataset updates captured over the course of the month. We will provide this section for subsequent release notes.

Job Postings

- July job postings (part of ongoing weekly processing)
- All 2021 postings updated for fill status (part of ongoing weekly processing)

Resumés

- July and trailing three months updated resumés

Government Data Sources

- Department of Labor (DOL) unemployment claims through July 17
- Job Openings and Labor Turnover Survey (JOLTS) through May
- Local Area Unemployment Statistics (LAUS) through June
- Integrated Postsecondary Education Data System (IPEDS) 2020 awards and program data
- National Center for Education Statistics (NCES) College Scorecard July update