

# **Web and Social Media Analytics Lab Manual**

**B .Tech – IV Year I Semester (AI & DS Branch)**

## **SYLLABUS:**

1. Preprocessing text document using NLTK
  - Stop word elimination
  - Stemming,
  - Lemmatization
  - POS tagging
  - Lexical analysis
2. Sentiment analysis on customer reviews
3. Web analytics
  - Web usage data
  - Hyperlink data
4. Search engine optimization
  - Implementation of spandexing.
5. Google analytics tools
  - Visitor profiles
  - Traffic sources

## **Experiment 1: Preprocessing Text Document using NLTK**

Text preprocessing is an essential step in the field of Natural Language Processing (NLP). This comprehensive guide is tailored to help beginners master the art of text preprocessing using the Natural Language Toolkit (NLTK) in Python. NLTK, a powerful library, offers accessible tools for a wide array of text processing tasks.

### **Introduction to Text Preprocessing:**

Text preprocessing is the method of cleaning and structuring text data prior to analysis. It encompasses various techniques such as tokenization, stemming, lemmatization, and more, which are vital for simplifying and normalizing text data for effective processing by algorithms.

### **Why is Text Preprocessing Important?**

**Consistency:** Standardizes text data for uniformity.

**Efficiency:** Reduces complexity, enhancing NLP model performance.

**Accuracy:** Improves reliability and precision of analysis.

### **Setting Up NLTK**

Before starting with text preprocessing, setting up the NLTK environment is crucial. Install NLTK using Python's package manager:

```
pip install nltk
```

Next, download essential datasets and tokenizers:

```
1 import nltk  
2 nltk.download('popular')
```



### **Tokenization:**

Tokenization splits text into smaller units, like words or sentences, and is a foundational step in text preprocessing.

To tokenize words, use NLTK's **word\_tokenize** method:

```
1 from nltk.tokenize import word_tokenize  
2  
3 text = "NLTK is great for NLP!"  
4 words = word_tokenize(text)  
5 print(words)
```



For sentence tokenization, sent\_tokenize is used:

```
1 from nltk.tokenize import sent_tokenize  
2  
3 sentences = sent_tokenize(text)  
4 print(sentences)
```



## **Cleaning Text Data:**

Cleaning involves removing irrelevant characters such as punctuation, numbers, and special symbols to enhance data quality.

## **Removing Punctuation and Numbers:**

Utilize Python's regular expressions for this task:

```
1 import re  
2  
3 cleaned_text = re.sub(r'[^w\s]', '', text)  
4 print(cleaned_text)
```

## **Case Normalization:**

Case normalization ensures consistency by converting all text to the same case, typically lowercase:

```
1 lowercase_text = text.lower()  
2 print(lowercase_text)
```

## **Stemming and Lemmatization:**

Stemming and lemmatization reduce words to a base or root form, aiding in normalizing text data.

Stemming crudely chops off word endings:

```
1 from nltk.stem import PorterStemmer  
2  
3 stemmer = PorterStemmer()  
4 stemmed_words = [stemmer.stem(word) for word in words]  
5 print(stemmed_words)
```

Lemmatization considers contextual word usage to convert words to meaningful base forms:

```
1 from nltk.stem import WordNetLemmatizer  
2 nltk.download('wordnet')  
3  
4 lemmatizer = WordNetLemmatizer()  
5 lemmatized_words = [lemmatizer.lemmatize(word) for word in words]  
6 print(lemmatized_words)
```

## Stop Words Removal:

Stop words, commonly occurring words in a language, are usually removed as they add minimal semantic value.

```
1 from nltk.corpus import stopwords  
2 nltk.download('stopwords')  
3  
4 stop_words = set(stopwords.words('english'))  
5 filtered_sentence = [word for word in words if word not in stop_words]  
6 print(filtered_sentence)
```

## Part-of-Speech Tagging

Part-of-speech (POS) tagging is assigning word types, like noun or verb, to each word. This is crucial for understanding sentence structure and meaning.

NLTK provides a simple way to perform POS tagging:

```
1 from nltk import pos_tag  
2  
3 pos_tags = pos_tag(words)  
4 print(pos_tags)
```

## **Lexical Analysis:**

A **Lexicon** is like a dictionary of words in a language. Lexical Analysis means breaking down text into smaller parts (called tokens or lexemes) such as words, phrases, or sentences.

After splitting, we can analyze each part:

- **Tokenization :** Splitting text into words/sentences.
- **Part-of-Speech (POS) Tagging :** Labeling words as nouns, verbs, adjectives, etc.
- **Morphological Analysis :** Splitting words into

```
import nltk

from nltk.tokenize import word_tokenize, sent_tokenize

from nltk import pos_tag

from nltk.stem import WordNetLemmatizer, PorterStemmer


# Download necessary datasets (only first time)

nltk.download('punkt')                      # For tokenization

nltk.download('averaged_perceptron_tagger')  # For POS tagging

nltk.download('wordnet')                     # For lemmatization

nltk.download('omw-1.4')


# Input Text

text = "Lexical analysis is the first step of NLP. It breaks text into tokens for processing."


# Sentence Tokenization

print(" ◆ Sentence Tokenization:")

sentences = sent_tokenize(text)

print(sentences)


# Word Tokenization
```

```
# Word Tokenization

words = word_tokenize(text)

print(words)

# POS Tagging

print("\n ◆ Part-of-Speech (POS) Tagging:")

pos_tags = pos_tag(words)

print(pos_tags)

# Lemmatization

lemmatizer = WordNetLemmatizer()

print("\n ◆ Lemmatization Examples:")

print("running →", lemmatizer.lemmatize("running", pos="v"))

print("better →", lemmatizer.lemmatize("better", pos="a"))

print("cats →", lemmatizer.lemmatize("cats"))

# Stemming

stemmer = PorterStemmer()

print("\n ◆ Stemming Examples:")

print("running →", stemmer.stem("running"))

print("better →", stemmer.stem("better"))

print("cats →", stemmer.stem("cats"))
```

## **Experiment 2: Sentiment analysis on customer reviews**

Sentiment analysis is a technique used to determine the emotional tone or sentiment expressed in a text. It involves analyzing the words and phrases used in the text to identify the underlying sentiment, whether it is positive, negative, or neutral.

Sentiment analysis has a wide range of applications, including social media monitoring, customer feedback analysis, and market research.

One of the main challenges in sentiment analysis is the inherent complexity of human language. Text data often contains sarcasm, irony, and other forms of figurative language that can be difficult to interpret using traditional methods.

However, recent advances in natural language processing (NLP) and machine learning have made it possible to perform sentiment analysis on large volumes of text data with a high degree of accuracy.

### **Three Methodologies for Sentiment Analysis:**

- Lexicon-based analysis
- Machine learning (ML)
- Pre-trained transformer-based deep learning

### **Installing NLTK and Setting up Python Environment:**

To use the NLTK library, you must have a Python environment on your computer. The easiest way to install Python is to download and install the Anaconda Distribution. This distribution comes with the Python 3 base environment and other bells and whistles, including Jupyter Notebook. You also do not need to install the NLTK library, as it comes pre-installed with NLTK and many other useful libraries.

If you choose to install Python without any distribution, you can directly download and install Python from [python.org](http://python.org). In this case, you will have to install NLTK once your Python environment is ready.

To install NLTK library, open the command terminal and type:

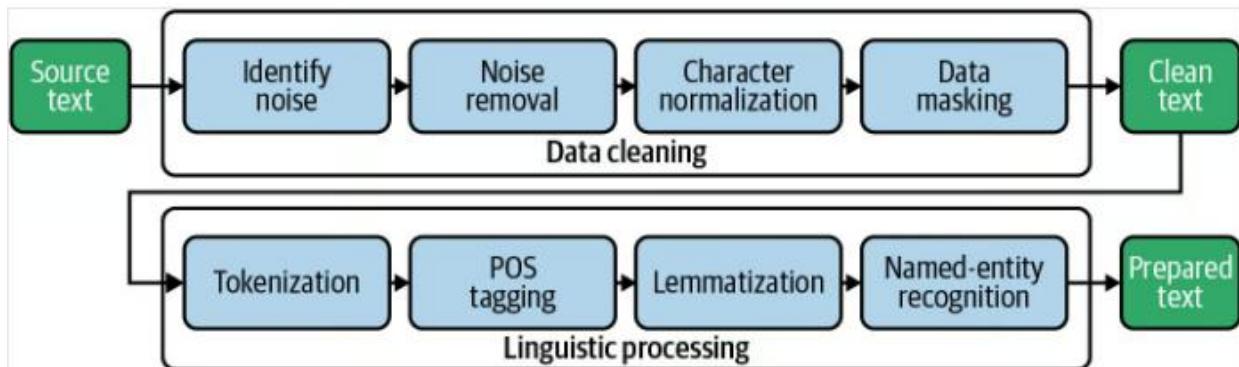
```
pip install nltk
```

It's worth noting that NLTK also requires some additional data to be downloaded before it can be used effectively. This data includes pre-trained models, corpora, and other resources that NLTK uses to perform various NLP tasks. To download this data, run the following command in terminal or your Python script:

```
import nltk  
  
nltk.download('all')
```

## Preprocessing Text:

Text preprocessing is a crucial step in performing sentiment analysis, as it helps to clean and normalize the text data, making it easier to analyze. The preprocessing step involves a series of techniques that help transform raw text data into a form you can use for analysis. Some common text preprocessing techniques include tokenization, stop word removal, stemming, and lemmatization.



## Tokenization:

Tokenization is a text preprocessing step in sentiment analysis that involves breaking down the text into individual words or tokens. This is an essential step in analyzing text data as it helps to separate individual words from the raw text, making it easier to analyze and understand. Tokenization is typically performed using NLTK's built-in `word_tokenize` function, which can split the text into individual words and punctuation marks.

### **Stop words:**

Stop word removal is a crucial text preprocessing step in sentiment analysis that involves removing common and irrelevant words that are unlikely to convey much sentiment. Stop words are words that are very common in a language and do not carry much meaning, such as "and," "the," "of," and "it." These words can cause noise and skew the analysis if they are not removed.

By removing stop words, the remaining words in the text are more likely to indicate the sentiment being expressed. This can help to improve the accuracy of the sentiment analysis. NLTK provides a built-in list of stop words for several languages, which can be used to filter out these words from the text data.

### **Stemming and Lemmatization:**

Stemming and lemmatization are techniques used to reduce words to their root forms. Stemming involves removing the suffixes from words, such as "ing" or "ed," to reduce them to their base form. For example, the word "jumping" would be stemmed to "jump."

Lemmatization, however, involves reducing words to their base form based on their part of speech. For example, the word "jumped" would be lemmatized to "jump," but the word "jumping" would be lemmatized to "jumping" since it is a present participle.

### **Bag of Words (BoW) :**

The bag of words model is a technique used in natural language processing (NLP) to represent text data as a set of numerical features. In this model, each document or piece of text is represented as a "bag" of words, with each word in the text represented by a separate feature or dimension in the resulting vector. The value of each feature is determined by the number of times the corresponding word appears in the text.

The bag of words model is useful in NLP because it allows us to analyze text data using machine learning algorithms, which typically require numerical input. By representing text data as numerical features, we can train machine learning models to classify text or analyze sentiments.

The example in the next section will use the NLTK Vader model for sentiment analysis on the Amazon customer dataset. In this particular example, we do not need to perform this step because the NLTK Vader API accepts text as an input instead of numeric vectors, but if you were building a supervised machine learning model to predict sentiment (assuming you have labeled data), you would have to transform the processed text into a bag of words model before training the machine learning model.

	about	bird	heard	is	the	word	you
About the bird, the bird, bird bird bird	1	5	0	0	2	0	0
You heard about the bird	1	1	1	0	1	0	1
The bird is the word	0	1	0	1	2	1	0

### Sentiment Analysis Example:

To perform sentiment analysis using NLTK in Python, the text data must first be preprocessed using techniques such as tokenization, stop word removal, and stemming or lemmatization. Once the text has been preprocessed, we will then pass it to the Vader sentiment analyzer for analyzing the sentiment of the text (positive or negative).

#### **Step 1 - Import libraries and load dataset:**

First, we'll import the necessary libraries for text analysis and sentiment analysis, such as pandas for data handling, nltk for natural language processing, and SentimentIntensityAnalyzer for sentiment analysis.

We'll then download all of the NLTK corpus (a collection of linguistic data) using `nltk.download()`.

Once the environment is set up, we will load a dataset of Amazon reviews using `pd.read_csv()`. This will create a DataFrame object in Python that we can use to analyze the data. We'll display the contents of the DataFrame using `df`.

```

# import libraries
import pandas as pd

import nltk

from nltk.sentiment.vader import SentimentIntensityAnalyzer

from nltk.corpus import stopwords

from nltk.tokenize import word_tokenize

from nltk.stem import WordNetLemmatizer

# download nltk corpus (first time only)
import nltk

nltk.download('all')

# Load the amazon review dataset

df = pd.read_csv('https://raw.githubusercontent.com/pycaret/pycaret/master/datasets/amazon_review.csv')

df

```

	reviewText	Positive
0	This is a one of the best apps according to a b...	1
1	This is a pretty good version of the game for ...	1
2	this is a really cool game. there are a bunch ...	1
3	This is a silly game and can be frustrating, b...	1
4	This is a terrific game on any pad. Hrs of fun...	1
...	...	...
19995	this app is fricken stupid.it froze on the kin...	0
19996	Please add me!!!! I need neighbors! Ginger101...	1
19997	love it! this game. Is awesome. wish it had m...	1
19998	I love love love this app on my side of fashio...	1
19999	This game is a rip off. Here is a list of thin...	0

20000 rows × 2 columns

## Step 2 - Preprocess text

Let's create a function preprocess\_text in which we first tokenize the documents using word\_tokenize function from NLTK, then we remove stop words using stopwords module from NLTK and finally, we lemmatize the filtered\_tokens using WordNetLemmatizer from NLTK.

```
def preprocess_text(text):
    # Tokenize the text
    tokens = word_tokenize(text.lower())

    # Remove stop words
    filtered_tokens = [token for token in tokens if token not in stopwords.words()]

    # Lemmatize the tokens
    lemmatizer = WordNetLemmatizer()

    lemmatized_tokens = [lemmatizer.lemmatize(token) for token in filtered_tokens]

    # Join the tokens back into a string
    processed_text = ' '.join(lemmatized_tokens)

    return processed_text

# apply the function df
df['reviewText'] = df['reviewText'].apply(preprocess_text)
df
```

	reviewText	Positive
0	one best apps acording bunch people agree bomb...	1
1	pretty good version game free . lot different ...	1
2	really cool game . bunch level find golden egg...	1
3	silly game frustrating , lot fun definitely re...	1
4	terrific game pad . hr fun . grandkids love . ...	1
...	...	...
19995	app fricken stupid.it froze kindle wont allow ...	0
19996	please add !!!!! need neighbor ! ginger101...	1
19997	love ! game . awesome . wish free stuff house ...	1
19998	love love love app side fashion story fight wo...	1
19999	game rip . list thing make better & bull ; fir...	0
20000 rows × 2 columns		

Notice the changes in the "review text" column as a result of the `preprocess_text` function that we applied in the above step.

### Step 3 - NLTK Sentiment Analyzer

First, we'll initialize a Sentiment Intensity Analyzer object from the `nltk.sentiment.vader` library.

Next, we'll define a function called `get_sentiment` that takes a text string as its input. The function calls the `polarity_scores` method of the analyzer object to obtain a dictionary of sentiment scores for the text, which includes a score for positive, negative, and neutral sentiment.

The function will then check whether the positive score is greater than 0 and returns a sentiment score of 1 if it is, and a 0 otherwise. This means that any text with a positive score will be classified as having a positive sentiment, and any text with a non-positive score will be classified as having a negative sentiment.

Finally, we'll apply the `get_sentiment` function to the `reviewText` column of the `df` DataFrame using the `apply` method. This creates a new column called `sentiment` in the DataFrame, which stores the sentiment score for each review. We'll then display the updated DataFrame using `df`.

```
# initialize NLTK sentiment analyzer
analyzer = SentimentIntensityAnalyzer()

# create get_sentiment function
def get_sentiment(text):
    scores = analyzer.polarity_scores(text)
    sentiment = 1 if scores['pos'] > 0 else 0
    return sentiment

# apply get_sentiment function
df['sentiment'] = df['reviewText'].apply(get_sentiment)

df
```

	reviewText	Positive	sentiment
0	one best apps acording bunch people agree bomb...	1	1
1	pretty good version game free . lot different ...	1	1
2	really cool game . bunch level find golden egg...	1	1
3	silly game frustrating , lot fun definitely re...	1	1
4	terrific game pad . hr fun . grandkids love . ...	1	1
...	...	...	...
19995	app fricken stupid.it froze kindle wont allow ...	0	0
19996	please add !!!!! need neighbor ! ginger101...	1	1
19997	love ! game . awesome . wish free stuff house ...	1	1
19998	love love love app side fashion story fight wo...	1	1
19999	game rip . list thing make better & bull ; fir...	0	1

20000 rows × 3 columns

The NLTK sentiment analyzer returns a score between -1 and +1. We have used a cut-off threshold of 0 in the get\_sentiment function above. Anything above 0 is classified as 1 (meaning positive). Since we have actual labels, we can evaluate the performance of this method by building a confusion matrix.

```
from sklearn.metrics import confusion_matrix
print(confusion_matrix(df['Positive'], df['sentiment']))
```

Output:

```
[[ 1131  3636]
 [ 576 14657]]
```

We can also check the classification report:

```
from sklearn.metrics import classification_report
print(classification_report(df['Positive'], df['sentiment']))
```

Output:

	precision	recall	f1-score	support
0	0.66	0.24	0.35	4767
1	0.80	0.96	0.87	15233
accuracy			0.79	20000
macro avg	0.73	0.60	0.61	20000
weighted avg	0.77	0.79	0.75	20000

As you can see, the overall accuracy of this rule-based sentiment analysis model is 79%. Since this is labeled data, you can also try to build a ML model to evaluate if an ML-based approach will result in better accuracy.

## **Experiment 2: Web analytics : a) Web usage data b) Hyperlink data**

### **Introduction to Web Analytics:**

Web Analytics is the process of collecting, measuring, analyzing, and reporting data related to the usage of websites. It helps organizations understand how visitors interact with their websites and applications, so they can make better business and design decisions.

Web Analytics tells us what happens on a website how many people visit, what pages they see, how long they stay, and what actions they take (like buying a product or filling a form).

### **Why Web Analytics is Important?:**

1. Understand User Behavior
2. Improve User Experience (UX)
3. Measure Business Goals
4. Support Marketing Decisions

## **Types of Web Analytics Data:**

1. **Web Usage Data** : information about user activities (clicks, time spent, pages visited).
2. **Web Content Data** :details about the content itself (text, images, videos).
3. **Hyperlink Data** :how pages are linked to each other, like a map of the site.

### **a) Web Usage Data Analysis:**

Web usage data refers to **information** collected from user interactions with a website.  
It helps in understanding how visitors use the website.

#### **Examples:**

- Page visits
- Time spent on each page
- Clicks on links or buttons
- Navigation paths (which pages users move between)
- Bounce rate (leaving after 1 page)

#### **Sources of Data:**

1. **Server logs** : contain raw information such as IP address, requested URL, timestamp.
2. **Cookies & sessions** : store user-specific behavior and preferences.
3. **Google Analytics reports** : provide detailed insights into user activity.

#### **Applications**

- Finding the most popular pages on a site.
- Understanding the user journey (which path users follow).
- Detecting fraud or abnormal behavior (like repeated logins or clicks).

#### **Example code :**

```
import pandas as pd

data = {
    "user_id": [101, 102, 103, 101, 104],
    "page": ["Home", "Products", "Home", "Contact", "Products"],
    "time_spent": [5, 10, 3, 8, 12]
}

df = pd.DataFrame(data)

avg_time = df.groupby("page")["time_spent"].mean()

print(avg_time)
```

## **Output:**

```
page
Contact    8.0
Home       4.0
Products   11.0
Name: time_spent, dtype: float64
```

### **b) Hyperlink Data Analysis:**

Hyperlink data refers to the information about how web pages are connected through links (URLs).

It shows the structure of a website or even the entire web.

Hyperlink data = the map of connections between pages.

#### **Sources of Data:**

1. **HTML source code** : hyperlinks (`<a href="...">`) present in webpages.
2. **Web crawlers (spiders)** : automated programs that collect links between pages.
3. **Search engines** : maintain hyperlink data for indexing and ranking pages.

#### **Applications:**

- **Website Navigation** : helps in improving internal linking of pages.
- **Search Engine Ranking** : Google's PageRank algorithm uses hyperlink data.
- **Community Detection** : finding groups of connected websites/pages.
- **Broken Link Detection** : identifying dead or missing links.

#### **Example Code:**

```
import requests

from bs4 import BeautifulSoup

url = "https://www.wikipedia.org/"

response = requests.get(url)

soup = BeautifulSoup(response.text, "html.parser")
```

**Output:**

Sample hyperlinks from the page:

```
['https://en.wikipedia.org/','  
 'https://es.wikipedia.org/','  
 'https://de.wikipedia.org/','  
 'https://ru.wikipedia.org/','  
 'https://fr.wikipedia.org/']
```

Search Engine Optimization is the practice of optimizing the performance of a website by changing its structure and content to increase its visibility and web traffic. It helps in improving the quality of your website and increases the viewer-to-customer conversion rate. It is a crucial aspect of digital marketing that focuses on enhancing the visibility and ranking of a website in search engine results pages (SERPs). The primary goal of SEO is to drive organic (non-paid) traffic to a website by improving its relevance and authority in the eyes of search engines. This SEO Tutorial covers a2z SEO concepts.

**What is SEO?**

Search Engine Optimization is defined as the process of improving (optimising) the visibility of a website/webpage on Search Engines, such as Google, Bing, etc. The higher your pages

appear in search results, the greater the chance they are discovered and clicked on. The objective of Search Engine Optimization (SEO) is to attract website visitors who can turn into customers, clients, or a loyal audience that consistently returns.

## **Why do we need SEO?**

We need Search Engine Optimization for the following aspects:

- To improve the quality of our website
- To increase web traffic
- To increase visibility
- To enhance user experience
- To gain a competitive advantage
- For analysis and monitoring of the website

Suppose you have a website, that deals with either of the following:

- Products you sell.
- Services you provide.
- Information on topics in which you have deep expertise and experience.

## **Basics of SEO:**

Some of the basic components of the SEO are as follows:

- Keyword Research
- On-Page SEO
- Quality Content
- Off-Page SEO
- Technical SEO
- User Experience (UX)
- Analytic

## **How Does SEO Work:**

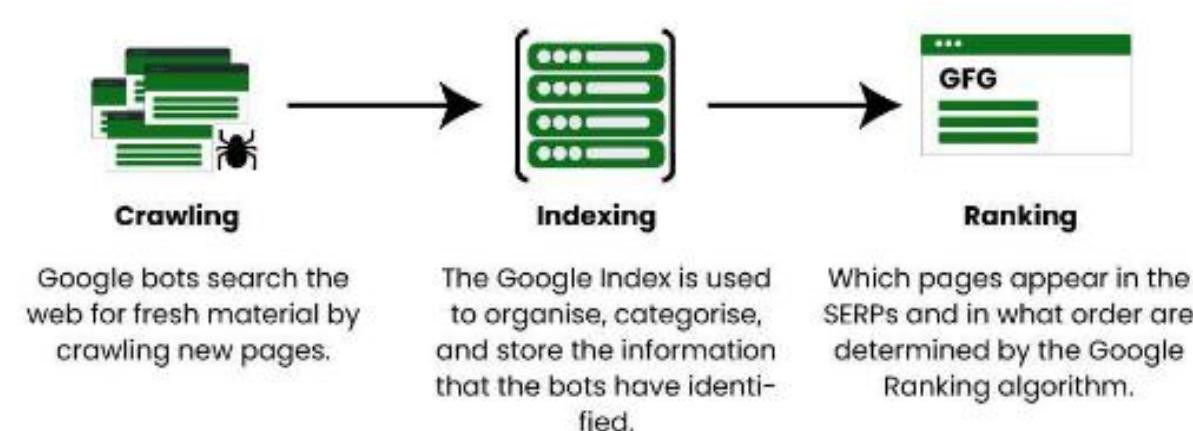
The most important topic that you need to learn in this SEO Tutorial is how does this SEO search optimisation works. SEO works by optimizing various elements of a website to make it more

accessible to search engines, ultimately improving its visibility and ranking in search engine results pages (SERPs). The goal is to increase organic traffic to the website.

- **Search Engine Crawling:** Search engines, like Google, use automated bots (spiders or crawlers) to navigate the web. These bots follow links from one page to another, discovering and indexing content on websites.
- **Indexing:** Once a page is crawled, its content is analyzed and stored in the search engine's index. The index is like a massive library catalog that the search engine refers to when users enter a search query.
- **Ranking Algorithms:** Search engines use complex algorithms to determine the relevance and authority of indexed pages for specific search queries. Algorithms consider numerous factors, including keyword relevance, content quality, user experience, backlink profile, and more.
- **Keyword Relevance:** Search engines assess how well a page's content aligns with user search queries. Keyword optimization involves strategically using relevant terms in titles, headers, meta tags, and throughout the content.
- **Content Quality:** The quality of content is crucial. Search engines aim to deliver valuable, informative, and engaging content to users. Content that satisfies user intent and provides a comprehensive answer to a query is more likely to rank higher.
- **Backlinks:** Backlinks, or inbound links, are links from other websites to your site. They are a signal of trust and authority. High-quality, relevant backlinks can positively impact a site's ranking.

## Role of Search Engine in Search Engine Optimization:

### Working of Search Engine:



- **Crawling:** Search engines use automated programs called crawlers or spiders to navigate the web. These crawlers start by visiting a list of known web pages and following links on those pages to discover new ones. The crawlers download the content of the web pages they visit and follow the links on those pages, repeating the process to discover more content.
- **Indexing:** The information collected by the crawlers is organized and stored in a large database called an index. The index includes details about each page, such as keywords, content, meta tags, and links.
- **Processing and Ranking:** When a user enters a search query, the search engine processes the query and retrieves relevant results from its index. Algorithms are applied to rank these results based on various factors, including relevance, content quality, user experience, and the authority of the website.
- **Retrieval and Display:** The search engine retrieves the most relevant pages from the index and displays them on the search results page. The displayed results often include a title, a snippet (a brief description of the page), and a URL.
- **User Interaction and Feedback:** Search engines collect data on user interactions, such as which results users click on, how long they stay on a page, and whether they refine their search. This data helps improve the search engine's algorithms over time, making the results more accurate and relevant

### **Types of Search Engine Optimization (SEO):**

There are multiple type of Search Engine Optimizations (SEOs), but here are some of the major types of SEO:

- **On-Page SEO:** On-page SEO refers to the optimization of individual web pages to improve their ranking in search engine results pages (SERPs). It is a type of SEO that involves optimizing various elements of a web page to make it more relevant and appealing to search engines and users.
- **Off-Page SEO:** Off-Page SEO refers to the practise of building backlinks and managing social media presence.
- **Technical SEO:** Technical SEO refers to website and server optimization that helps the crawler in crawling, indexing and ranking operations to rank your website better.
- **Local SEO:** The goal of local SEO, or local search engine optimization, is to increase a website's exposure in local search results. It is a particular branch of SEO that concentrates on making a website or online presence more search engine friendly for local search queries.

- **Mobile SEO:** Mobile SEO refers to the practise of optimizing the website for mobile devices such as Mobile phone and Tablets. The main aim is to ensure that the website is fully functional and organised on mobile devices.
- **Voice SEO:** Voice SEO refers to practise of optimizing the website to appear in voice search results, this is important as people usually don't speak things the way they write them.
- **Image SEO:** Image SEO refers to the practise of optimizing the images to appear in image search results. The main aim is to get our images crawled and ranked high in search results.
- **Ecommerce SEO:** The technique of increasing an online store's exposure and organic ranks in search engines like Google and Bing is known as e-commerce SEO.

### **Spandexing :**

Spandexing, also known as search engine spam or Black-Hat SEO, is the unethical practice of manipulating search engine indexes to artificially boost a website's ranking in search results. Instead of improving content quality, spandexing relies on deceptive techniques such as keyword stuffing, hidden text, cloaking, and link farms to trick search engines into ranking a page higher.

It is considered a violation of search engine guidelines and can result in penalties such as lower rankings, removal from search results, or even permanent banning of the website. While spandexing may provide short-term traffic gains, it causes long-term harm to the website's credibility and user trust.

### **Types of Spandexing:**

Spandexing techniques are broadly divided into two categories: Content Spam and Link Spam.

#### **(a) Content Spam**

This type of spam focuses on manipulating the content of a webpage to mislead search engines.

- **Keyword Stuffing :** Overloading the text with repeated keywords to artificially boost rankings.
- **Hidden Text :** Using invisible text (e.g., white text on a white background) to insert keywords without being visible to users.
- **Cloaking :** Showing different content to search engines than what users actually see, tricking search engines into ranking the page higher.

### **(b) Link Spam**

This type of spam manipulates the links to a website to increase its authority and ranking.

- **Link Farms** – A group of websites that excessively link to each other to boost rankings.
- **Blog Comment Spam** – Posting irrelevant or promotional links in blog comment sections.
- **Paid or Fake Back links** – Buying or generating unnatural backlinks from low-quality websites to manipulate search rankings.

### **Implementation Techniques in Spandexing:**

#### **A) Black-Hat SEO Methods (Unethical)**

These are techniques used to deceive search engines and get higher rankings quickly.

1. **Keyword Stuffing** – Overloading web pages with excessive keywords.
2. **Hidden Text/Links** – Using invisible text or links (e.g., white text on white background).
3. **Cloaking** – Showing different content to search engines and users.
4. **Link Farms** – Creating or joining networks of sites just to exchange links.
5. **Doorway Pages** – Creating low-quality pages specifically to rank for certain keywords.

Risk: Search engines may penalize or ban your website.

#### **B) White-Hat SEO Methods (Ethical)**

These follow search engine guidelines to improve rankings naturally.

1. **High-Quality Content** – Creating valuable and relevant content for users.
2. **Natural Keyword Usage** – Using keywords without overstuffing.
3. **Genuine Backlinks** – Earning links from reputable websites.
4. **Website Optimization** – Optimizing site speed, structure, mobile-friendliness.
5. **User Engagement** – Ensuring good user experience to reduce bounce rates.

Result: Safer, long-term ranking improvements.

### **Why It's Used:**

Spandexing is used to manipulate search engine rankings for quick benefits. Common reasons include:

1. **Higher Rankings Quickly** : To appear at the top of search results faster than competitors.

2. **Drive Traffic & Revenue** : To attract more visitors and generate money without creating genuine quality content.
3. **Malicious Purposes** : Often used by sites promoting phishing, fake products, or malware.

#### Risks of Spandexing:

Spandexing may give quick benefits, but it comes with serious risks:

1. **Penalties or Banning** – Search engines can penalize or completely remove websites that use spamdexing.
2. **Loss of Trust** – Users and customers lose confidence in websites that use deceptive practices.
3. **Short-Term Gains, Long-Term Damage** – Any ranking improvement is temporary, while reputation suffers in the long run.

Spandexing is risky and not sustainable. Ethical SEO (White-Hat) is safer for long-term success.

## **Experiment 1: Google analytics tools a) Visitor profiles b) Traffic sources**

### **What is Google Analytics?**

Google Analytics is a free tool provided by Google that tracks and reports website traffic and user behavior. It collects data on metrics like page views, sessions, and user demographics, enabling businesses to analyze performance, optimize content, and improve marketing strategies.

For instance, let's say you own an eCommerce store and want to know how many users visit your website. With the help of Google Analytics, you can see the number of visitors to your store, how much they spend, where they're coming from, which device they're using, and much more.

### **How Google Analytics Works**

Google Analytics works by implementing a small piece of JavaScript code on your website that collects visitor data. Here's a simplified breakdown of how it functions:

- **Tracking Code Installation:** When you set up Google Analytics, you add a JavaScript tracking code to your website. This code is what collects data about your visitors.
- **Cookie Placement:** When a user visits your website, Google Analytics places cookies on their browser. These small files store information about the user's activities.
- **Data Collection:** The tracking code records various user interactions like page views, time spent on each page, clicks, and conversions (key events).
- **Data Processing:** The collected data is sent to Google Analytics servers, where it's processed and organized into meaningful metrics and dimensions.
- **Report Generation:** The processed data is then presented in various reports within your Google Analytics dashboard, giving you insights into your website's performance.

### **What does Google Analytics do?**

Google Analytics tracks and analyzes website traffic and user behavior. It measures metrics like page views, session duration, and user demographics. Businesses use it to monitor performance, evaluate audience engagement, and optimize their marketing strategies.

- Here are some of the benefits of using Google Analytics:
- Measure your website's performance
- See if your marketing efforts are working
- Get inspiration for which type of content to create or products to sell on your website
- Divide users into different segments (like age, gender, country, device, etc.) to see which ones are more engaged
- Figure out which website pages you should optimize in order to boost conversions.

## How to Use Google Analytics 4:

Google Analytics is intimidating at first glance, but with this tutorial and some practice, you'll be using it to read and understand your website's data in no time.

### *Step 1: Create a Google Analytics Account and Add The Tracking Code*

The first thing you'll need to do is create a Google Analytics account and add a tracking code to your website.

If you need help with these two steps, you can follow our easy guides on setting up a Google Analytics account and how to add the tracking code to your WordPress website to get started. If your website isn't on WordPress, you'll need to either look up the instructions for installing it on your CMS (like Squarespace or Wix), or copy and paste the tracking code into your website's header file.

*what is a tracking code?*

Your Google Analytics tracking code is a snippet of code that allows Google Analytics to track the visitors on your website and the actions that they perform. It's made up of a programming language called JavaScript and looks something like this:

**Install the Google tag manually**

Below is the Google tag for this account. Copy and paste it in the code of every page of your website, immediately after the <head> element. Don't add more than one Google tag to each page.

```
<!-- Google tag (gtag.js) -->
<script async src="https://www.googletagmanager.com/gtag/js?id=G-XXXXXX"></script>
<script>
  window.dataLayer = window.dataLayer || [];
  function gtag(){dataLayer.push(arguments);}
  gtag('js', new Date());

  gtag('config', 'G-XXXXXX');
</script>
```

You don't need to understand the contents of the code, but you might like to know how it all works.

When a user visits your website, Google Analytics will drop a cookie on the user's browser. Cookies are small files that contain information about the user's activities.

Using these cookies, Google Analytics will be able to see how the user behaves on your website and collect this information to show you in different reports.

## Step 2: Set up Conversions (Key Events)

If you want Google Analytics to tell you how many of your visitors completed a conversion, like signing up for your newsletter, filling out a form, watching a video, viewing a certain page, or buying a product, you'll have to set up conversions.

Google Analytics 4 can automatically track some events on its own with its Enhanced Measurement tracking, like file downloads, video views, form submissions, and a few more. However, keep in mind that there are a few constraints with GA4's built-in enhanced tracking. For instance, video tracking only works with YouTube videos, form tracking has some reported issues if you're also using a Facebook Pixel, and scroll tracking only fires if a user scrolls to the bottom of your pages.

To set up enhanced measurement, head to the Admin cog, then Data Streams:

The screenshot shows the Google Analytics Admin interface. On the left, the navigation menu is open, showing 'Admin' selected. Under 'Data collection and modification', 'Data streams' is also selected. The main content area is titled 'PROPERTY SETTINGS'. It contains sections for 'Property' (with links to 'Property details', 'Property access management', 'Property change history', 'Scheduled emails', and 'Analytics Intelligence search history'), 'Data display' (with links to 'Events', 'Conversions', 'Audiences', and 'Custom definitions'), and 'Product links' (with links to 'Google AdSense links', 'Google Ads links', and 'URL Manager links'). A red box highlights the 'Data streams' link under 'Data collection and modification'.

After that, click into your data stream:

The screenshot shows the 'Data streams' page within the Admin interface. The left sidebar shows 'Data streams' selected under 'Data collection and modification'. The main area displays a table for 'Data streams'. One row is highlighted, showing 'Demo Website' with the URL 'https://www.demowebsite.c' and a traffic count of '2808482957'. A red arrow points from the text above to this row. The table includes columns for 'All', 'iOS', 'Android', and 'Web', and a 'Receiving traffic in past 48 hours.' indicator.

Now, you'll see an Enhanced Measurement section. If you want Google Analytics to attempt to track events on its own, make sure this is flipped on.

The screenshot shows the 'Web stream details' page. At the top, it displays the stream name 'MonsterInsights - http://examplewebsite.com' and the stream URL 'http://examplewebsite.com'. Below that, the measurement ID starts with 'G-' followed by a redacted string. Under the 'Enhanced measurement' section, there is a description of what it does: 'Automatically measure interactions and content on your sites in addition to standard page view measurement.' It also mentions that data from on-page elements like links and videos may be collected with relevant events, with a note about personally identifiable information and a 'Learn more' link. The 'Measuring' dropdown is set to 'Page views'. A large red arrow points to the toggle switch for 'Enhanced measurement', which is currently in the off position (grey).

Once it's switched on, you can click on the cog icon to choose what's automatically tracked:

The screenshot shows the 'Events' settings page. It lists several options under 'Enhanced measurement': 'Automatically measure interactions and content on your sites in addition to standard page view measurement.' (with a note about personally identifiable information and a 'Learn more' link), 'Measuring' (set to 'Page views'), 'Modify events' (with a note about incoming events and parameters and a 'Learn more' link), 'Create custom events' (with a note about creating new events from existing ones and a 'Learn more' link), and 'Measurement Protocol API secrets' (with a note about creating an API secret for Measurement Protocol and a 'Learn more' link). A large red arrow points to the gear icon next to the 'Measuring' dropdown, which is set to 'Page views'.

Now, you can mark whichever events you want tracked as conversions (key events). So, when someone completes an event of your choice (downloading a file, submitting a form, etc.), it'll count as a conversion in Google Analytics. Note that conversions are called 'key events' in Google Analytics.

To do this, head to the Admin cog » Key events.

A screenshot of the Google Analytics Admin interface. On the left, there's a sidebar with links: Home, Reports, Explore, Advertising, and Admin (which is selected and highlighted in blue). The main content area is titled 'Data display' with the subtitle 'These settings control how data is shown in your reports'. It lists several options: Events, Key events (which is highlighted with a red box and has a large red arrow pointing to it), Audiences, Comparisons, Custom definitions, Channel groups, Attribution settings, Reporting identity, and DebugView. Each option has a help icon (a question mark) to its right.

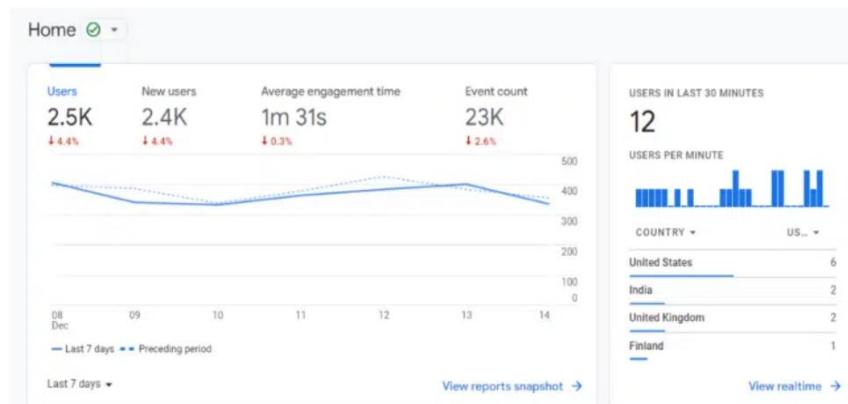
Then, you'll be able to click the switch to mark an event as a conversion:

Key events		Network Settings				New key event
Key event name	↑	Count (% change)	Value (% change)	Mark as key event	?	
contact_us		0	0%	<input checked="" type="checkbox"/>		
amazon_click		0	0%	<input type="checkbox"/>		
generate_lead		422	-	<input checked="" type="checkbox"/>		

## Google Analytics Beginner's Guide: Reports

Once you've created an account and added the tracking code, it's time to see what can you do with Google Analytics.

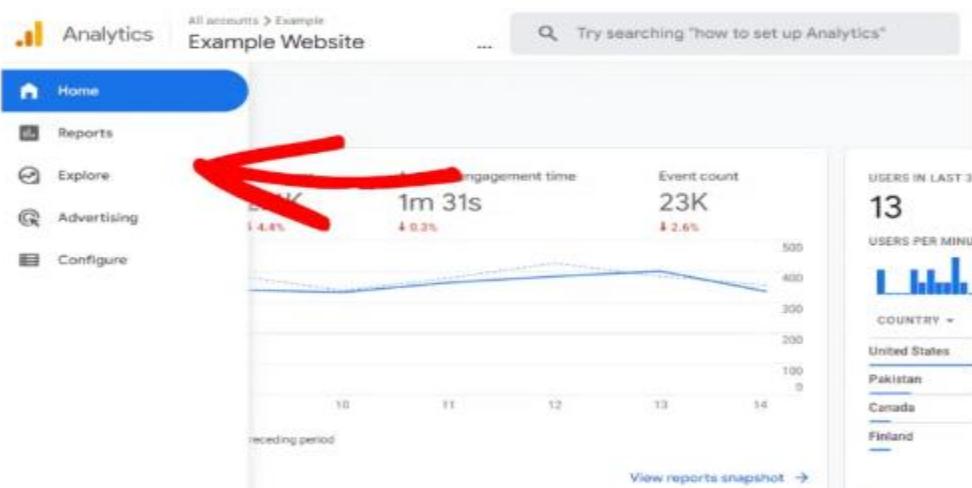
As you start, you'll arrive at Google Analytics home. It gives you a quick overview of how your website is performing.



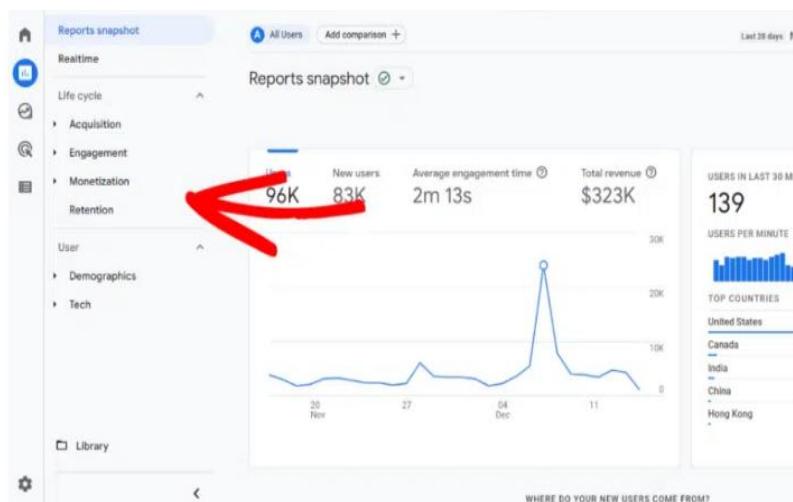
For instance, you can see:

- Users: How many visitors came to your website (in the past 7 days or whatever date period you have selected)
- New users: Of the users who visited your site, how many of them hadn't visited your website before
- Average engagement time: How much average time a visitor spends on the website
- Event count: How many events (clicks, form submissions, etc.) were completed

On the left-hand side panel, you'll see a navigation sidebar that expands when you mouse over it:



To access your reports, head to the Reports tab.

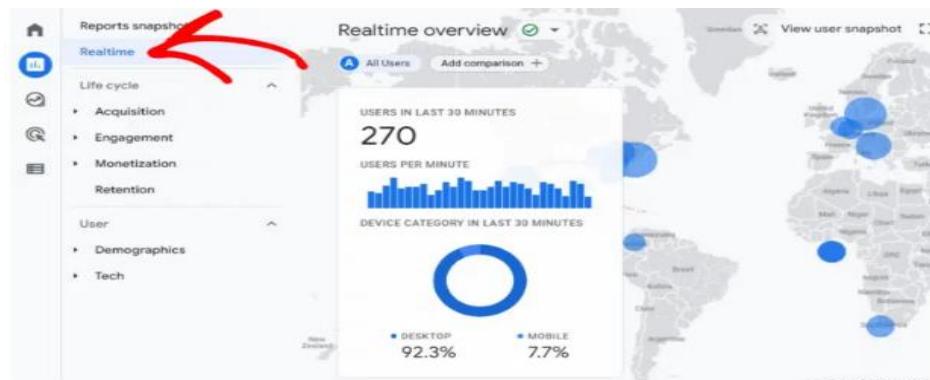


You'll see a new navigation with Google Analytics reports:

- Reports snapshot
- Realtime
- Acquisition
- Engagement
- Monetization
- Retention
- Demographics
- Tech

Let's take a look at each of these reports, what they track, and how you can use them.

### Realtime Report:



The main card overlaid on the world map shows how many users have visited your site in the last 30 minutes, plus what percentage of them were on desktop, mobile, or tablet-type devices.

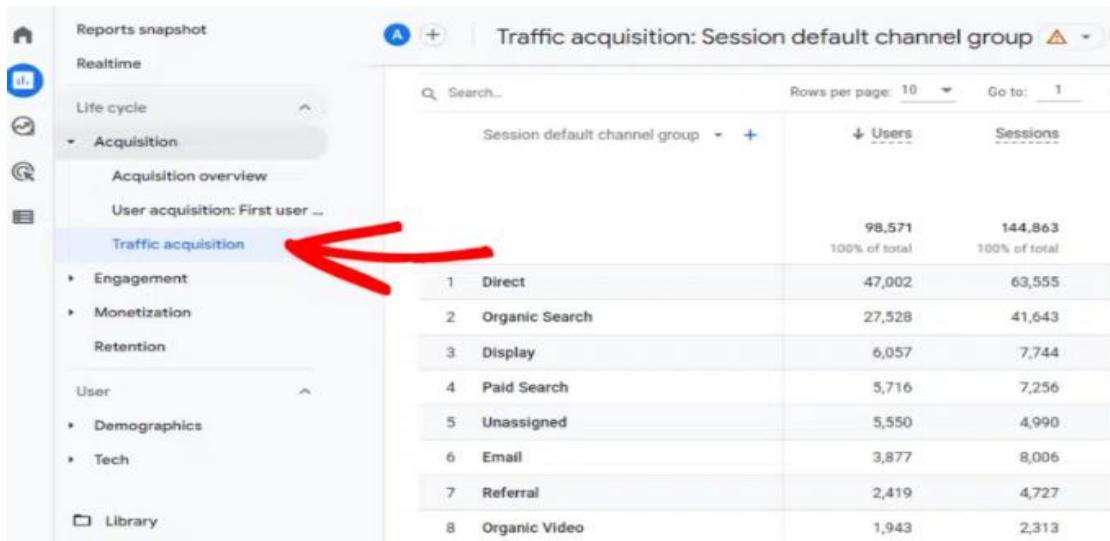
When you scroll down the page, you'll see cards with different real-time data to check out:



Realtime reports are great for measuring the performance of a recent campaign that you're running, like a sale, free giveaway, or promoting content on social media.

## Acquisition Report:

The Acquisition report in Google Analytics breaks down your website traffic. If you want to figure out how you acquired your traffic, this is the report to find that data. We recommend starting with the Traffic Acquisition report to see the channels your visitors used to find your website:



The screenshot shows the Google Analytics interface. On the left, there's a sidebar with various reports: Reports snapshot, Realtime, Life cycle, Acquisition (which is expanded), Engagement, Monetization, Retention, User, Demographics, Tech, and Library. A red arrow points from the text above to the 'Traffic acquisition' link under the Acquisition section. The main area is titled 'Traffic acquisition: Session default channel group'. It has a search bar, a dropdown for 'Session default channel group' (set to '+'), and buttons for 'Users' and 'Sessions'. Below this is a table showing traffic sources:

Rank	Channel	Users	Sessions
1	Direct	47,002	63,555
2	Organic Search	27,528	41,643
3	Display	6,057	7,744
4	Paid Search	5,716	7,256
5	Unassigned	5,550	4,990
6	Email	3,877	8,006
7	Referral	2,419	4,727
8	Organic Video	1,943	2,313

As you are getting started with Google Analytics, acquisition reports are extremely useful. They'll tell you how your traffic reaches your website.

Google Analytics will divide your web traffic into traffic categories such as:

- Organic Search: Organic traffic is the traffic that comes from search engines like Google or Bing
- Direct: This is the traffic that arrives when someone types in your website's URL, opens your website through a bookmark, or when Google cannot recognize the traffic source
- Referral: Referral traffic is the traffic that comes from links to your site elsewhere on the web
- Paid Search: If you're running Google Ads, that traffic will show up here
- Organic Social: This is the non-ad traffic that arrives from social media platforms like Facebook or Twitter

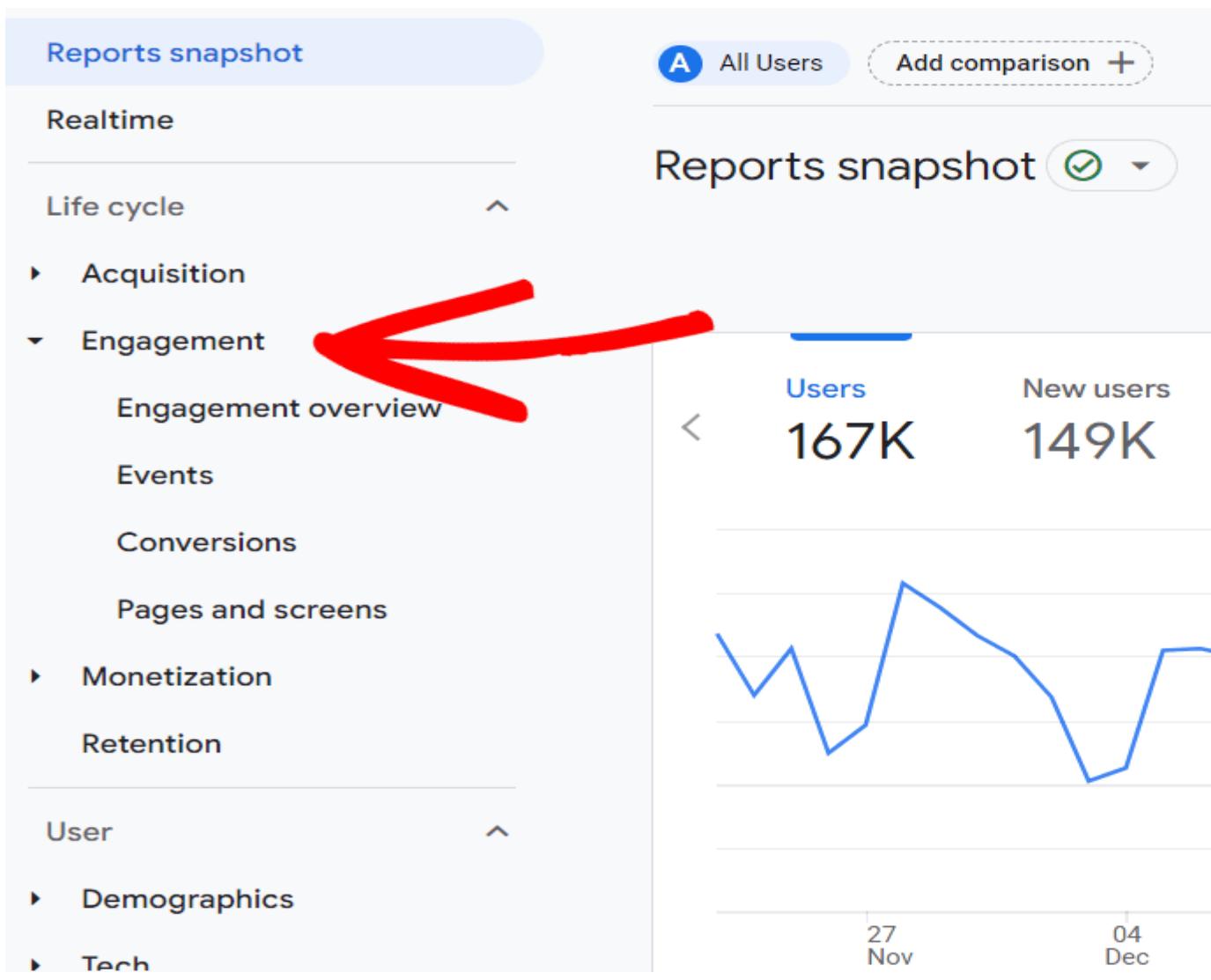
If you want more detail, you can dig deep in the Acquisition report to find traffic sources.

For instance, to see more exact channels, click the Session default channel group dropdown:

Session default channel group

		Pages per session	Visitors	Average engagement time per session
	Source	10.62%	144,363	88.09%
1	Direct	47,002	63,950	1m 28s
2	Organic Search	37,528	41,643	1m 25s
3	Display	8,057	7,764	0m 29s
4	Paid Search	5,716	7,256	1m 04s
5	Unassigned	5,876	4,990	1m 28s
6	Email	3,877	8,000	2m 43s
7	Referral	2,419	4,727	2m 33s
8	Organic Video	1,943	2,313	0m 33s

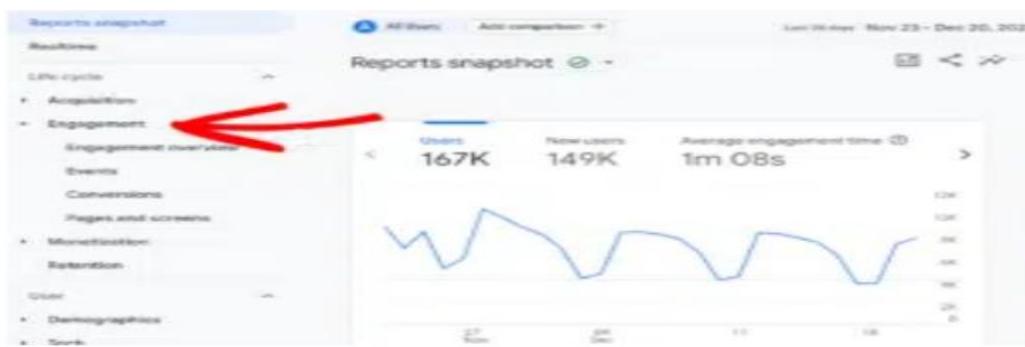
From the dropdown, choose Session source/medium. Then, you'll be able to see more detail about exactly which traffic sources sent traffic to your site.



With this information, you will know where to invest your time and money. For instance, if you're lacking organic traffic, you need to focus more on search engine optimization.

### Engagement Report:

When it comes to finding out what your visitors are doing while they're on your website, you need to look at the Engagement report in Google Analytics. This is where you can see events your visitors trigger, conversions they completed, and pages they visited.



In this section, the most helpful report for beginners is Pages and screens. It includes both events and conversions for each page. Let's take a look.

A screenshot of the Google Analytics 'Pages and screens' report. The sidebar on the left shows the 'Engagement' section expanded, with a red arrow pointing to the 'Pages and screens' link. The main content area is a table titled 'Pages and screens: Page path and screen class'. The table has columns for 'Page path and screen class', 'Views', and 'Users'. The data is as follows:

Page path and screen class	Views	Users
1 /Google+Redesign/Stationery	571,375 100% of total	63,096 100% of total
2 /basket.html	47,776	13,708
3 /basket.html	40,204	5,618
4 /Google+Redesign/Apparel	37,347	13,151
5 /Google+Redesign/Lifestyle/Drinkware	33,590	12,188
6 /store.html	24,780	5,091
7 /Google+Redesign/Apparel/Mens	22,239	6,191
8 /Google+Redesign/Clearance	19,408	5,757

In this section, the most helpful report for beginners is **Pages and screens**. It includes both events and conversions for each page. Let's take a look.

Reports snapshot

Realtime

Life cycle

Acquisition

Engagement

Overview

Events

Conversions

Pages and screens

Landing page

Monetization

Retention

User

User Attributes

Pages and screens: Page path and screen class

Page path and screen class	Views	Users
1 /Google+Redesign/Stationery	571,375 100% of total	63,096 100% of total
2 /basket.html	47,776	13,708
3 /Google+Redesign/Apparel	40,204	5,618
4 /Google+Redesign/Lifestyle/Drinkware	37,347	13,151
5 /store.html	33,590	12,188
6 /Google+Redesign/Apparel/Mens	24,780	5,091
7 /Google+Redesign/Clearance	22,239	6,191
	19,408	5,757

In this report, you'll see all your pages that were visited in the time period you have selected. For each page, you'll see:

- Views
- Users
- Views per user
- Average engagement time
- Event count
- Key events (formerly called conversions)
- Total revenue

With all of this data, you can see which of your pages are getting the most views, how much time visitors are spending on them, and whether any conversions occurred on each page. This gives you an overview of how each of your pages is performing.

In the same Engagement section, you'll find a **Landing page** report. This report has many of the same metrics as the Pages and screens report, but is landing pages (pages your visitors landed on when they visited your site) instead of all pages.

Reports snapshot

Realtime

Life cycle

Acquisition

Engagement

Overview

Events

Conversions

Pages and screens

Landing page

Monetization

Retention

User

User Attributes

Landing page: Landing page

Landing page	Sessions	Users
1 (not set)	84,380 100% of total	62,153 100% of total
2 /Google+Redesign/Stationery	47,513	41,018
3 /Google+Redesign/Apparel	15,629	12,317
4 /Google+Redesign/Lifestyle/Drinkware	11,679	10,681
5 /	10,504	9,737
6 /Google+Redesign/Shop+by+Brand/YouTube	6,089	5,687
7 /Google+Redesign/Apparel/Mens	2,601	2,412
	2,591	2,259

## Monetization Report:

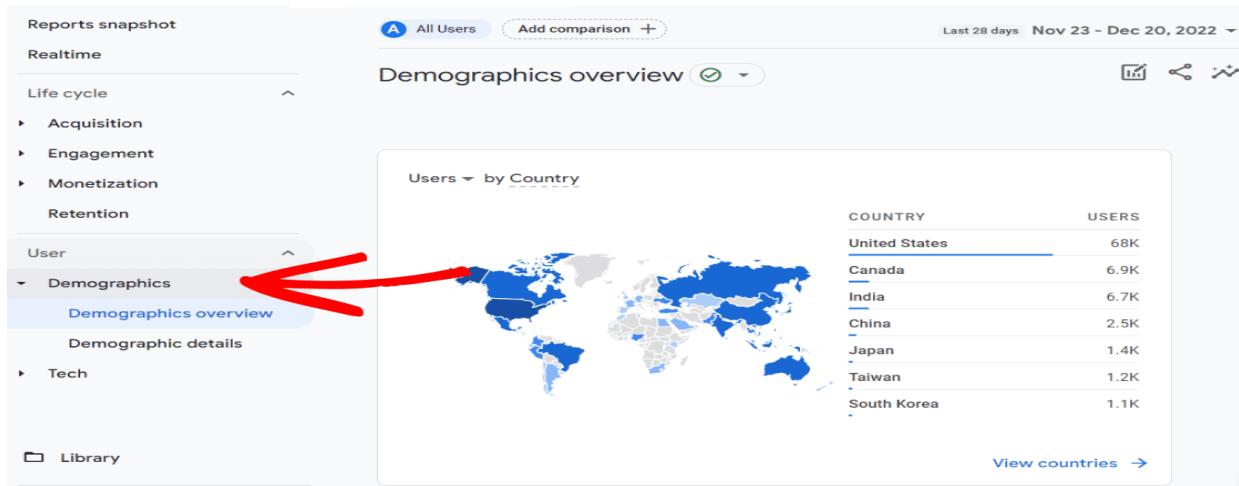
The monetization report is a report for eCommerce websites that sell products (whether they're physical or digital). If you do sell through your website, you'll have to set up eCommerce tracking in order to track those sales.

Once you've got eCommerce running, the Monetization report will show you eCommerce metrics for each of your products:

Item name		+	Items viewed	Items added to cart	Items purchased	Item revenue
			52,727 100% of total	24,889 100% of total	9,207 100% of total	\$92,321.94 100% of total
1	Chrome Dino Warm and Cozy Accessory Pack		3,441	514	134	\$1,509.20
2	Super G Timbuk2 Recycled Backpack		1,900	189	26	\$2,675.00
3	Google Campus Bike		1,772	201	35	\$1,628.00
4	Google Sensory Support Event Kit		1,339	31	9	\$405.00

## Demographics Report

The demographics report tells you more about your audience, like where they're from, gender, age, and language. This can help you understand your audience and tailor your content for them. Note that for some demographics to be collected, you'll need to turn on demographics tracking.



## Tech Report:

The tech report tells you what technology your users used to visit your site, whether they were on desktop, mobile, or a tablet. You can also learn their operating system, browser, and screen resolution.

**Realtime**

**Tech overview**

Last 28 days Nov 23 - Dec 20, 2022

**Life cycle**

- Acquisition
- Engagement
- Monetization
- Retention

**User**

- Demographics
- Demographics overview
- Demographic details

**Tech**

- Tech overview** (selected)
- Tech details

**Users by Operating system**

OPERATING SYSTEM	USERS
Android	36K
Macintosh	21K
Windows	21K
iOS	15K
Chrome OS	5.6K
Linux	1.8K

**View operating systems →**

**Users by Platform / device category**

PLATFORM / DEVICE CAT...	USERS
web / desktop	49K
web / mobile	46K
web / tablet	5.1K

**View platform devices →**

That's our rundown of the reports in Google Analytics 4. The more time you spend looking at them and playing around with them, the better you'll get at finding meaningful data.

Once you've got the hang of the basic reports, you can try creating custom Explore reports.

## Overview Report:

First, it's the website **overview** report. You can see a graphical presentation of the sessions and pageviews for your site. Then, below that, you'll see the total number of sessions, total page views, average duration per session, and total users.

**Overview Report**

Sessions

Pageviews

Last 30 days: September 9 - October 8, 2024

**Stats at a Glance**

All Time Stats	Most Popular Times	Most Popular Categories
Total Page Views: 75,445	Top days: Mon (39.81% of Views)	1. Tutorial (49% of Categories)
Total Sessions: 340,260	Fri (28.21% of Views)	2. News (22% of Categories)
Number of Posts: 24	Wed (20.06% of Views)	3. Product Guide (11% of Categories)
Number of Pages: 28	Top hours: 12 PM (18.81% of Views)	4. Product Reviews (9% of Categories)
Number of Comments: 0	7 PM (17.24% of Views)	5. Interviews (7% of Categories)

**Your Most Popular Page**

https://examplesite.com/

Pageviews	Sessions
63,214	57,133

Bounce Rate: 0.75%

**Most Popular Post**

/how-to-find-average-order-value-using-google-analytics/

Pageviews	Sessions
9,479	11,078

Bounce Rate: 0.88%

**Most Popular Product**

Product	Sales
1. MonsterInsights	15% of Sales
2. WPForms	15% of Sales
3. OptinMonster	13% of Sales
4. WP Mail SMTP Pro	11% of Sales
5. SeedProd	8% of Sales

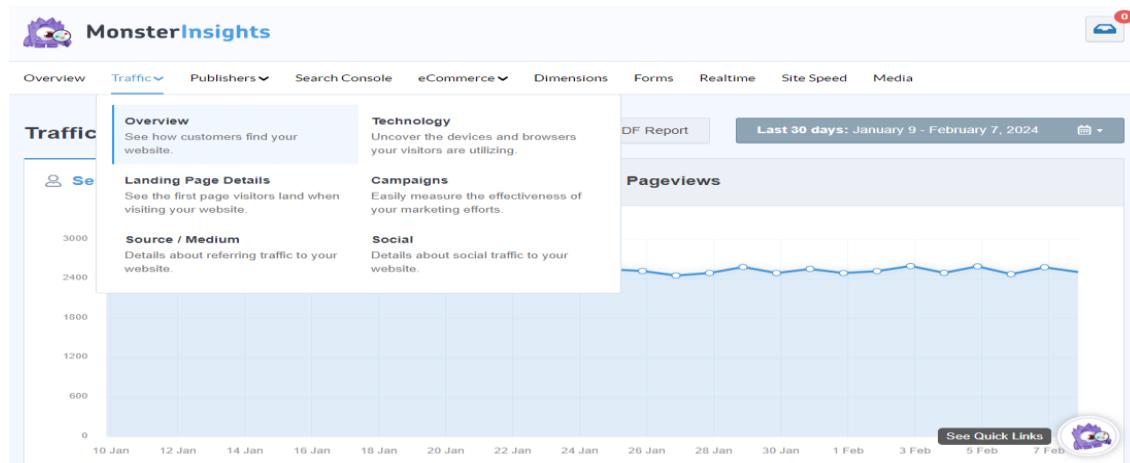
Below the top graph, you'll also see these metrics in the overview report:

- All-time stats
- Most popular page

- Most popular post
- Most popular times
- Most popular categories
- Most popular products
- New vs. returning users
- Device breakdown – Proportion of users on desktop, tablet, and mobile
- Top 10 countries your visitors are from
- Top 10 referral websites sending you traffic
- Top posts/pages

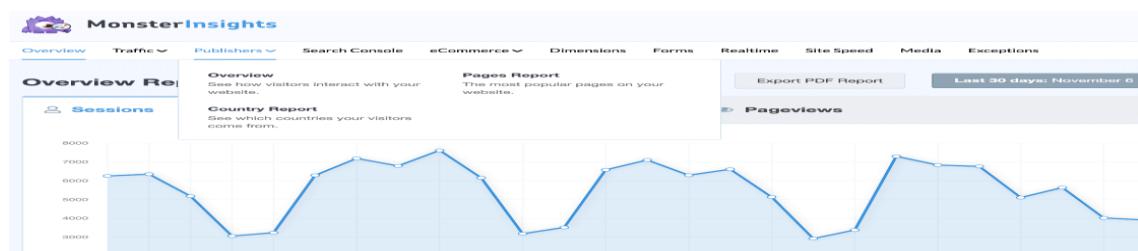
## Traffic Report:

The second report section is Traffic. Within this section, you'll be able to access six different reports with vital information about your traffic, including what channels they used to find your website, what devices they were using, what landing pages they landed on, whether or not they converted, and more.



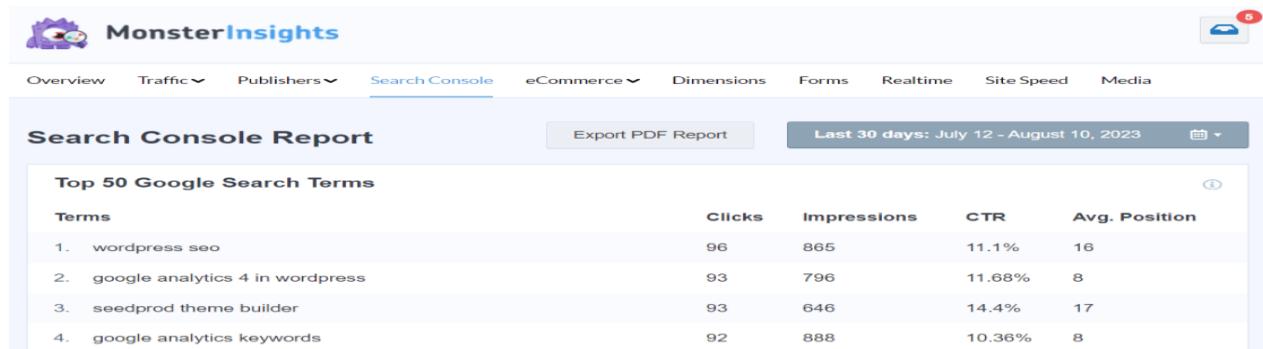
## Publishers Reports:

The next report section you can view in the dashboard is the **Publishers** section. There, you'll find your top landing pages, top outbound links, top affiliate links, top download links, demographics, scroll depth, top countries and regions, all of your top most-visited pages with extra details, and interest categories in these reports.



## Search Console Report:

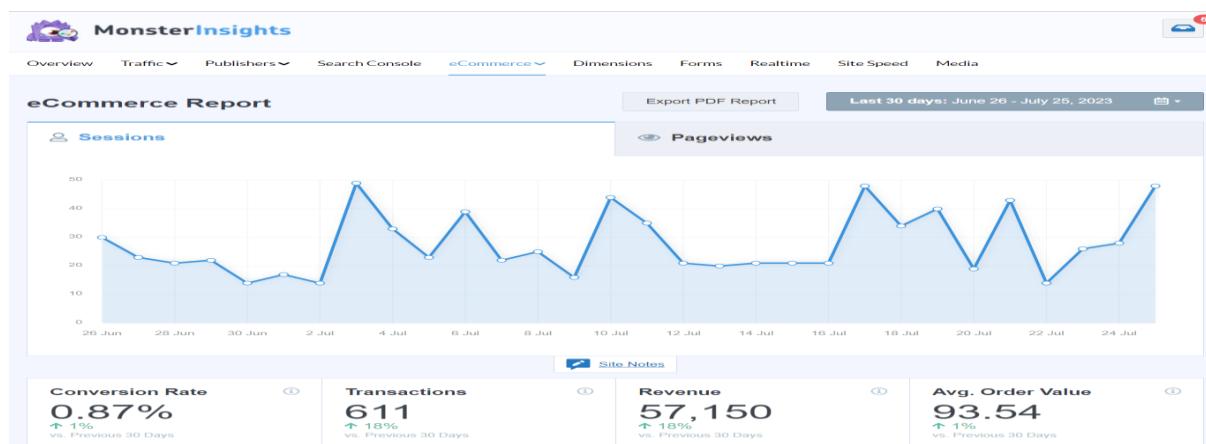
The fourth report tab is the **Search Console** report where you can view the top search queries your users use on search engines to find your site.



This screenshot shows the 'Search Console Report' section of the MonsterInsights plugin. At the top, there's a navigation bar with tabs like Overview, Traffic, Publishers, Search Console (which is selected), eCommerce, Dimensions, Forms, Realtime, Site Speed, and Media. Below the navigation is a date range selector showing 'Last 30 days: July 12 - August 10, 2023'. The main content area is titled 'Search Console Report' and displays a table titled 'Top 50 Google Search Terms'. The table has columns for 'Terms', 'Clicks', 'Impressions', 'CTR', and 'Avg. Position'. The data shows four search terms: 'wordpress seo' (Clicks: 96, Impressions: 865, CTR: 11.1%, Avg. Position: 16), 'google analytics 4 in wordpress' (Clicks: 93, Impressions: 796, CTR: 11.68%, Avg. Position: 8), 'seedprod theme builder' (Clicks: 93, Impressions: 646, CTR: 14.4%, Avg. Position: 17), and 'google analytics keywords' (Clicks: 92, Impressions: 888, CTR: 10.36%, Avg. Position: 8).

## E Commerce Report:

The **eCommerce report**, which provides a great overview of your online shop's performance. You can view your shop's conversion rate, the number of transactions, how much revenue you've generated, and your average order value.



This screenshot shows the 'eCommerce Report' section of the MonsterInsights plugin. The top navigation bar includes tabs for Overview, Traffic, Publishers, Search Console, eCommerce (selected), Dimensions, Forms, Realtime, Site Speed, and Media. A date range selector at the top right shows 'Last 30 days: June 26 - July 26, 2023'. The main area features two line charts: 'Sessions' (left) and 'Pageviews' (right), both showing data from June 26 to July 26. Below the charts are four summary boxes: 'Conversion Rate' (0.87% vs. Previous 30 Days), 'Transactions' (611 vs. Previous 30 Days), 'Revenue' (\$57,150 vs. Previous 30 Days), and 'Avg. Order Value' (\$93.54 vs. Previous 30 Days). There's also a 'Site Notes' button.

Plus, you can see the list of your [top products](#) and many more useful metrics about your online shop.

Other eCommerce reports include:

- Coupons report
- Shopping funnel report
- Cart abandonment report

## User Journey Report:

The **User Journey report** shows you the steps users took when they made a purchase on your eCommerce website. This report isn't in the top navigation inside the MonsterInsights dashboard, but you can reach it by navigating to **Insights » User Journey**:

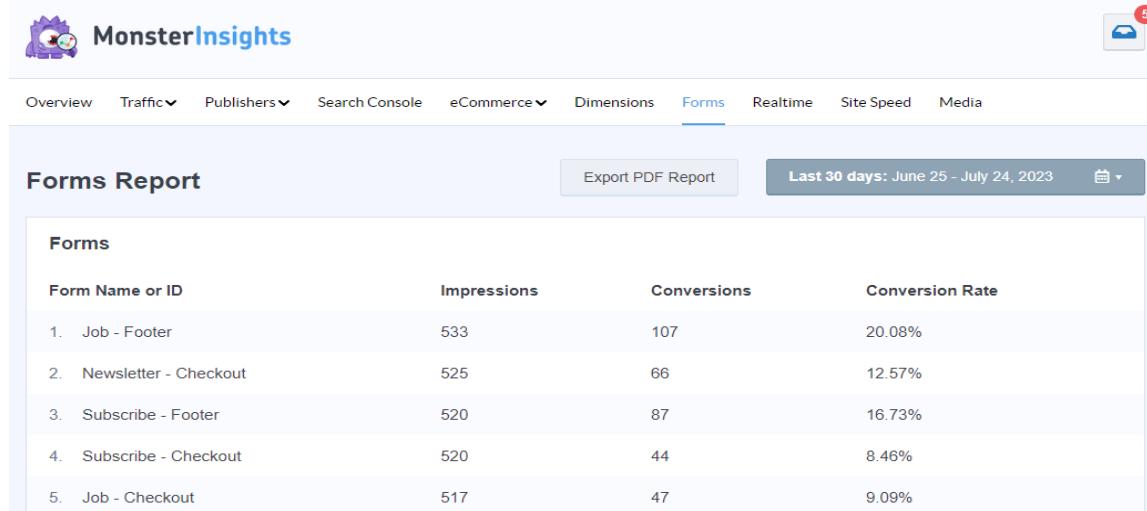
## Custom Dimensions Report:

The next report is the **Custom Dimensions Report**. This is where you can set up and track helpful data that Google Analytics doesn't track out of the box on its own, including:

- The most popular authors on your site
- Which keywords you've used on your site are bringing in the most traffic
- Top categories and tags on your site
- Logged in users

## Forms Report:

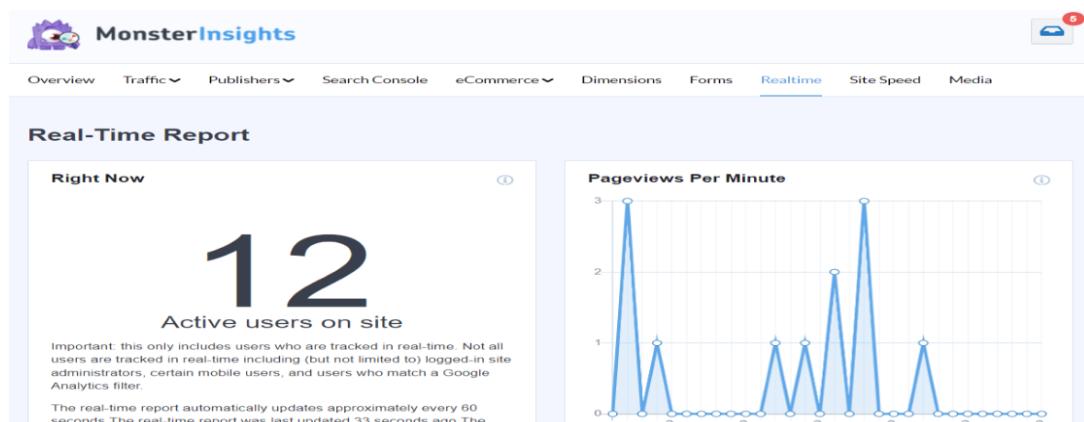
The **Forms Report**. It automatically tracks all the forms on your site without any setup (beyond installing our add on) and gives you data on their conversion rate and submissions.



The screenshot shows the 'Forms Report' section of the MonsterInsights plugin. At the top, there are navigation tabs: Overview, Traffic, Publishers, Search Console, eCommerce, Dimensions, **Forms**, Realtime, Site Speed, and Media. Below the tabs, a date range is set to 'Last 30 days: June 25 - July 24, 2023'. The main content area is titled 'Forms Report' and contains a table with the following data:

Form Name or ID	Impressions	Conversions	Conversion Rate
1. Job - Footer	533	107	20.08%
2. Newsletter - Checkout	525	66	12.57%
3. Subscribe - Footer	520	87	16.73%
4. Subscribe - Checkout	520	44	8.46%
5. Job - Checkout	517	47	9.09%

## Realtime Report:



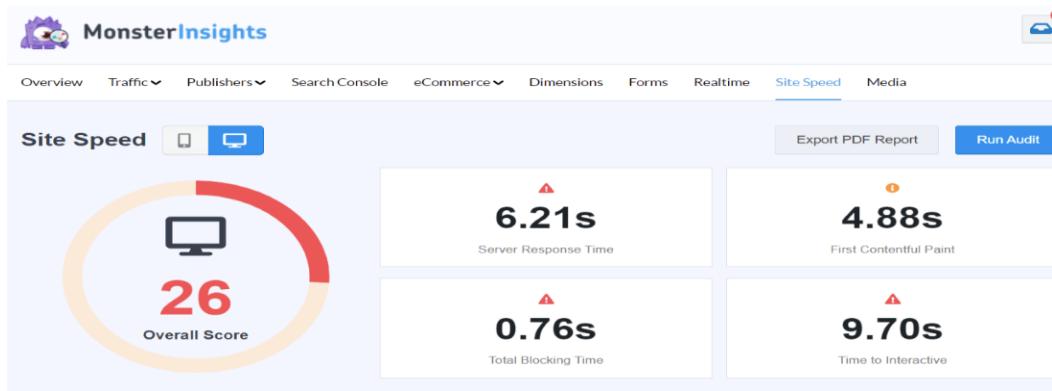
The screenshot shows the 'Real-Time Report' section of the MonsterInsights plugin. At the top, there are navigation tabs: Overview, Traffic, Publishers, Search Console, eCommerce, Dimensions, Forms, **Realtime**, Site Speed, and Media. Below the tabs, a date range is set to 'Last 30 days: June 25 - July 24, 2023'. The main content area is titled 'Real-Time Report' and contains two sections: 'Right Now' and 'Pageviews Per Minute'.

**Right Now:** Displays '12 Active users on site'. A note below states: 'Important: this only includes users who are tracked in real-time. Not all users are tracked in real-time including (but not limited to) logged-in site administrators, certain mobile users, and users who match a Google Analytics filter.' Another note says: 'The real-time report automatically updates approximately every 60 seconds. The real-time report was last updated 33 seconds ago. The

**Pageviews Per Minute:** A line chart showing the number of pageviews per minute over time. The chart has three major peaks at approximately 3, 2, and 1 pageviews per minute.

## Site Speed Report:

The speed of your website can impact a lot of things, including how you rank in search and how much organic traffic you get. That's really important! So, you can access your up-to-the-minute site speed report inside MonsterInsights at any time.



## Media



Those are the reports you'll find inside MonsterInsights, but don't forget about Site Notes! Head to [Insights » Site Notes](#) to take notes about all your important marketing or design activities and keep track of what you did, when:

**Site Notes**

Keep track of important website events with Site Notes. Site Notes can help you track and monitor changes to your website traffic, clicks, or conversion rates over a period of time.

**All (5) Trash (1)**

Site Note	Author	Created	Category	Media
Star Site Notes Promotion	jskow	2023-01-20	Promotion	
Star New Post – How to Add Google Analytics to WordPress the Right Way	jskow	2023-01-18	Blog Post	
Star New Post – Beginner's Guide to Google Analytics: How Does It Work?	jskow	2023-01-13	Blog Post	
Published GA4 landing page	jskow	2023-01-09	Website Updates	

These metrics are necessary for gaining deep insights into your website visitor base. By using this data, you can refine your marketing strategies, enhance your SEO efforts, and significantly boost your conversion rates. Understanding your audience is the key to growing your business.