

# Automating the Charting of Radiographics Top 10 Articles into a Google Spreadsheet

This guide details how to automatically chart Radiographics' top 10 articles from their website into a Google Spreadsheet. By following these steps, you will learn how to navigate the Radiographics website, extract key article information, set up your Google Drive workspace, and populate the spreadsheet with formatted data for further processing in Python or other applications.

## Introduction

In this guide, you will:

- Search for and navigate to the Radiographics top 10 articles page.
- Select a category (e.g., Breast Imaging, Cardiac) to view a list of articles specific to residency years.
- Extract details such as the article title, author list, publication year, DOI link, and abstract from each article (with a technique to remove extra formatting from abstracts).
- Log in to Google Drive, create a dedicated folder, and set up a new Google Sheets spreadsheet.
- Configure the spreadsheet with appropriate headers, dropdown menus (using Data Validation), and text wrapping to improve readability.

### Handling Multiple Categories:

If you wish to chart articles from multiple categories (e.g., Breast Imaging, Cardiac, etc.), you have two options:

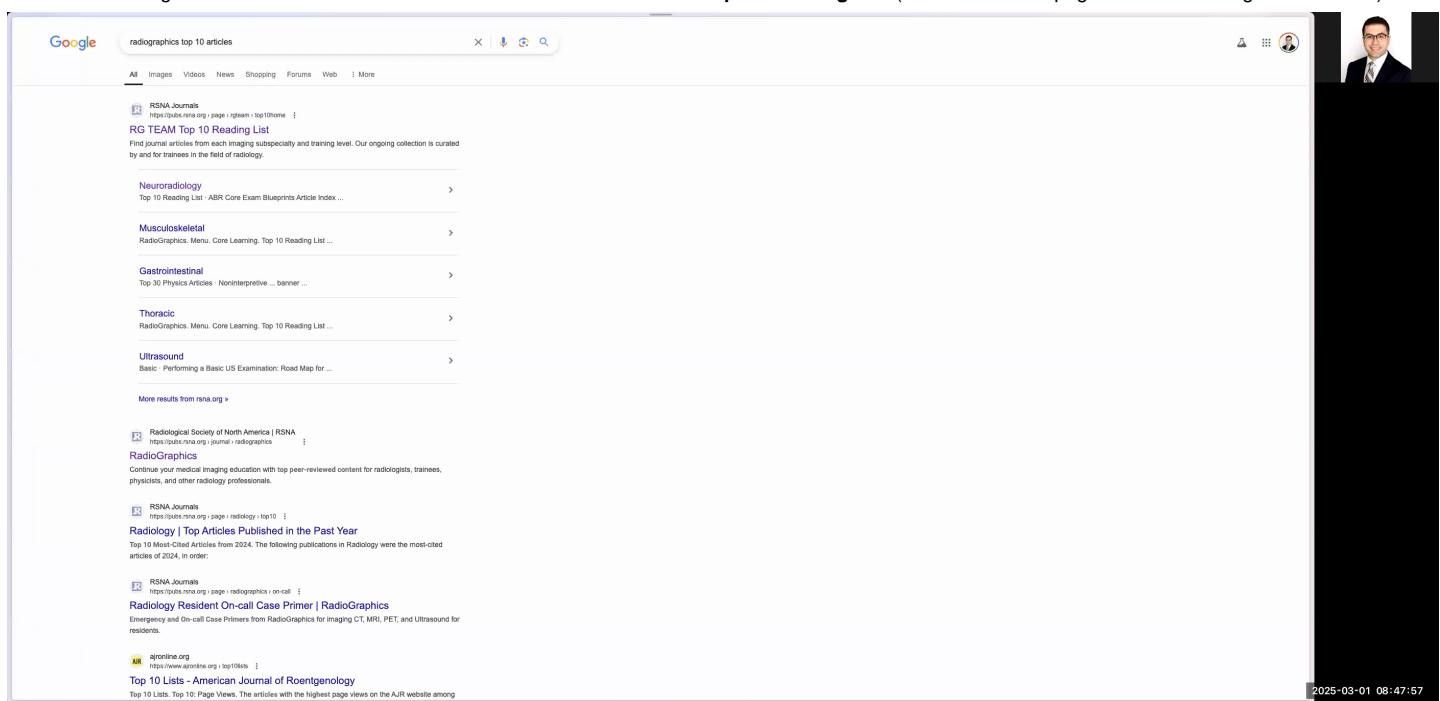
1. Create separate tabs within the same Google Spreadsheet for each category.
2. Add an additional column to denote the article category and keep all data in a single sheet.

Choose the approach that best suits your workflow and data analysis needs.

## Step-by-Step Instructions

### 1. Navigate to the Radiographics Top 10 Articles Page

1. Open your preferred web browser.
2. In the search bar, type "Radiographics top 10 articles" and press Enter.
3. Look through the search results and click on the link labeled **RG TEAM Top 10 Reading List** (this is the official page with all the categorized articles).



The screenshot shows a Google search results page for the query "radiographics top 10 articles". The top result is a link to the "RG TEAM Top 10 Reading List" from RSNA Journals. Below it are links to various medical imaging resources, including Radiological Society of North America (RSNA) journals, Radiographics, and American Journal of Roentgenology (AJR). The search interface includes a Google logo, a search bar with the query, and a navigation bar with options like All, Images, Videos, News, Shopping, Forums, Web, and More. A user profile picture is visible in the top right corner of the browser window.

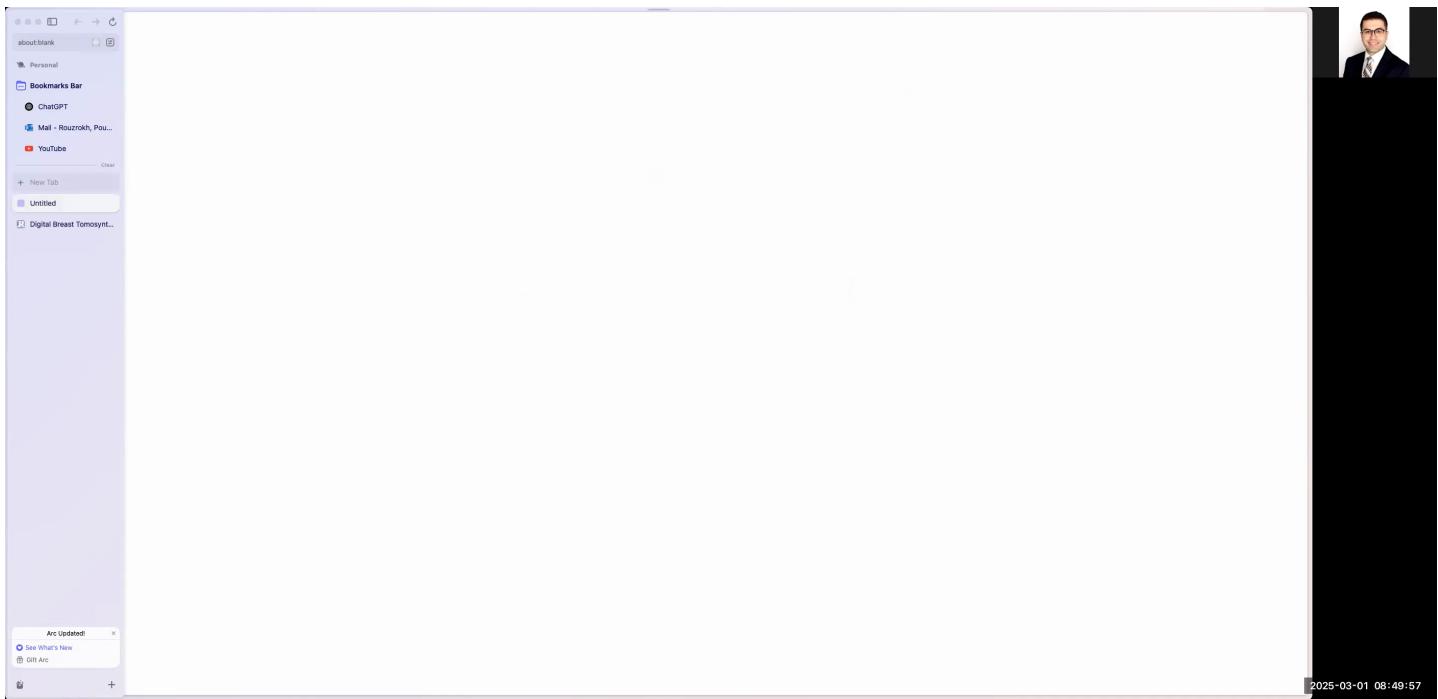
1. Once the page loads, adjust your view (using zoom if necessary) to clearly see the different categories and residency years (e.g., Breast Imaging, Cardiac, etc.).

## 2. Selecting an Article Category and Viewing Article Details

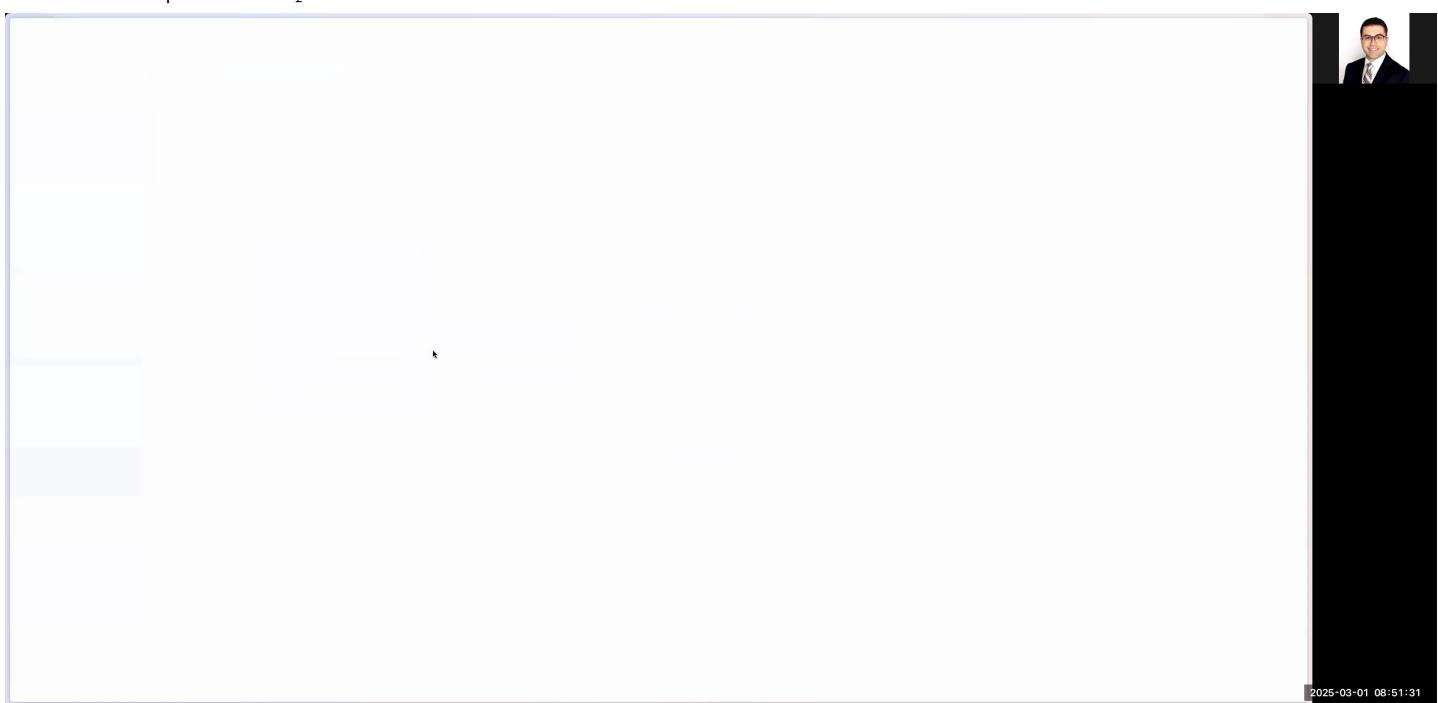
1. Click on any article category (for example, **Breast Imaging**).
2. The page will display articles arranged by residency year and categorized by levels (e.g., Basic, Intermediate, Advanced).
3. Click on an individual article (for example, one from the Basic category for R1 residents) to view its details.
4. On the article page, note the following information that you will record:
5. **Title** of the article
6. **Authors** (author list)
7. **Publication Year** (e.g., 2019)
8. **DOI URL** (copy the hyperlink as is)
9. **Abstract** (see Step 5.2 for cleaning the abstract text)
10. **Residency Year (R1, R2, etc.) and Article Level (Basic, Intermediate, Advanced)**

## 3. Setting Up Your Google Drive Workspace

1. Open a new browser tab and go to <https://drive.google.com>.
2. Ensure you are logged in using your desired Google account. If prompted, follow the on-screen instructions to log in or switch accounts.



1. Click on the **New** button and choose **Folder**.
2. Name the folder **RG-Top10-Articles**.
3. Open the newly created folder by double-clicking on it.
4. Inside the folder, click on **New** and then select **Google Sheets** to create a new blank spreadsheet.
5. Name the spreadsheet **Top 10 Articles**.



#### 4. Configuring the Spreadsheet

1. In the first row of the spreadsheet, create the following header columns (suggested order):
  2. Title
  3. Author List
  4. Year
  5. DOI
  6. R Year
  7. Level

Abstract

Format each header cell as bold for emphasis.

Adjust the width of each column to ensure the content is clearly visible.

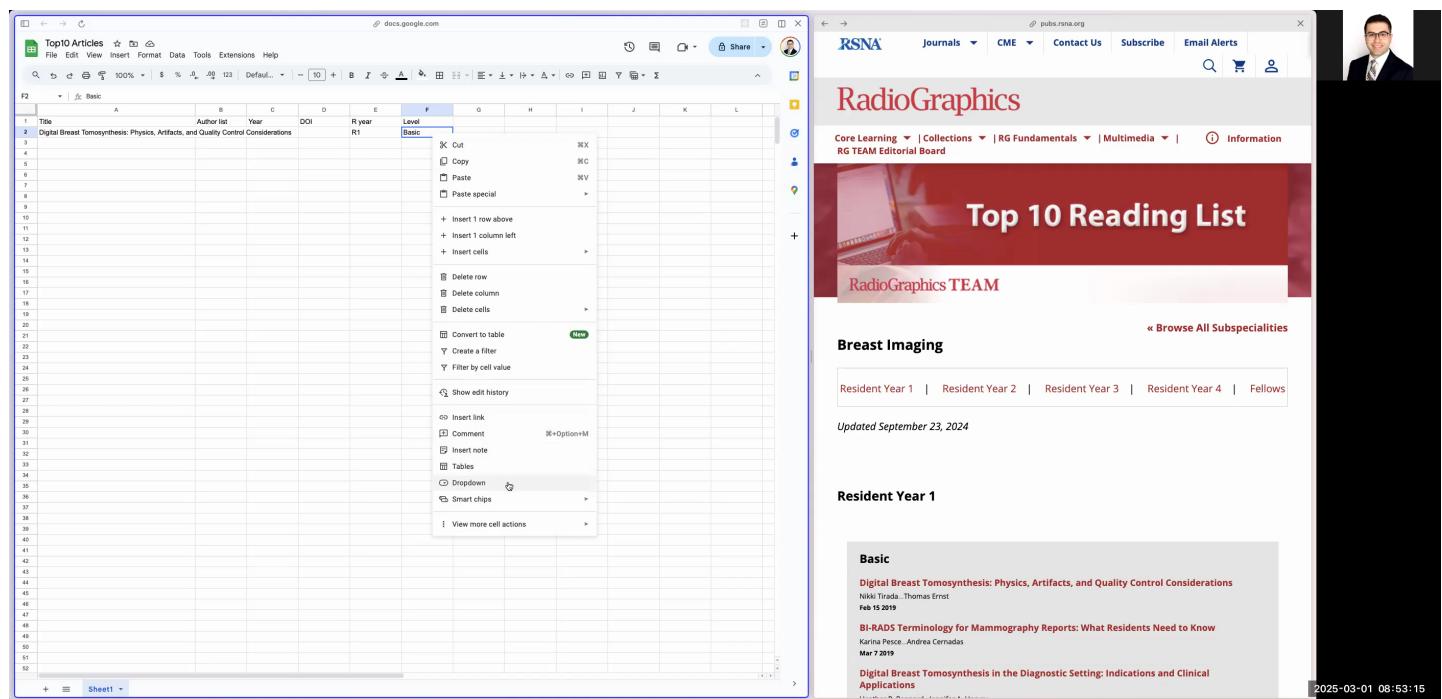
*Creating Dropdown Menus for R Year and Level:*

12. Click the column header for **R Year** (or select the range of cells in that column).
13. Go to the top menu and click **Data > Data validation**.
14. Under **Criteria**, choose **List of items** and enter: **R1 ,R2 ,R3 ,R4**.

Click **Save** to apply the dropdown.

Repeat the process for the **Level** column:

17. Select the **Level** column cells.
18. Click **Data > Data validation**.
19. Under **Criteria**, choose **List of items** and enter: **Basic, Intermediate, Advanced**.
20. Click **Save**.



## 5. Populating the Spreadsheet with Article Data

For each article from the Radiographics page, perform the following steps:

### 1. Extract and Record the Title

Copy the title of the article from the article page and paste it into the appropriate cell under the *Title* column.

### Extract and Record the Author List

Copy the author list from the article page. If you notice extra spaces or line breaks, use the cleaning technique described in Step 5.2 before pasting into the *Author List* column.

### Extract and Record the Publication Year

Manually type or copy the publication year (e.g., 2019) into the *Year* column.

### Extract and Record the DOI Link

Copy the DOI link from the article page and paste it into the *DOI* column. Ensure the link remains clickable.

### Set the Residency Year and Level

10. In the *R Year* column, select the appropriate residency year (e.g., R1) from the dropdown list you configured.

In the *Level* column, select the corresponding article level (e.g., Basic, Intermediate, Advanced) from the dropdown.

### Extract and Record the Abstract

13. Copy the article abstract from the page. Since pasting directly may include extra formatting (such as unnecessary line breaks and special characters), use the following text-cleaning method:

14. Open a new tab in your browser.
15. Click in the address bar and paste the copied abstract text. The address bar typically displays plain text without extra formatting.
16. Highlight and copy the cleaned abstract text from the address bar.
17. Paste the cleaned text into the *Abstract* column.

**Abstract**

Substantial increases in the use of digital breast tomosynthesis are expected in the coming years, and it is important to understand how tomosynthesis images are obtained, identify artifacts specific to tomosynthesis, and recognize how tomosynthesis quality control is different from that for full-field digital mammography.

As digital breast tomosynthesis (DBT) becomes widely used, radiologists must understand the basic principles of (a) image acquisition, (b) analysis, and (d) quality control (QC) that are specific to DBT. Standard acquisition parameters common to both full-field digital mammography (FFDM) and DBT are combinations of x-ray tube voltage, current, exposure time, and anode target and filter combinations. Image acquisition parameters specific to DBT include tube motion, sweep angle, and number of projections. Continuous tube motion or x-ray emission decreases imaging time but leads to focal spot blurring when compared with step-and-shoot techniques. The sweep angle and the number of projections directly affect resolution. Larger sweep angles allow greater out-of-plane (z-axis) resolution, improving visualization of masses and architecture distortion. A greater number of projections increases in-plane or xy axis resolution, improving visualization of microcalcifications. Artifacts related to DBT include blurring-ripple, truncation, and loss of skin and superficial tissue resolution. Motion artifacts are difficult to recognize because of inherent out-of-plane blurring. To maintain optimal image quality and an "as low as reasonably possible" dose, quality control (QC) regulation must be performed. DBT is considered a new imaging modality; therefore, breast imaging facilities are required to obtain a separate certification in addition to that in FFDM, and all personnel (radiologists, technologists, and medical physicists) are mandatory to complete initial DBT training and maintain appropriate continuing medical education credits.

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**Abbreviations**

ACR	American College of Radiology
DBT	digital breast tomosynthesis
FBP	filtered back projection
FDA	U.S. Food and Drug Administration
FFDM	full-field digital mammography
MQSA	Mammography Quality Standards Act
QC	quality control
3D	three dimensional

**Article History**

Received: Mar 5 2018  
Revision requested: April 18 2018  
Revision received: June 18 2018  
Accepted: June 25 2018  
Published online: Feb 15 2019  
Published in print: Mar 19 2019

2025-03-01 08:55:48

1. Repeat steps 1 through 6 for every article listed on the Radiographics page. If you are processing multiple categories, ensure you either create separate tabs for each category or include an extra column to indicate the article category.

## 6. Final Spreadsheet Touches

1. Once all articles have been charted, remove or delete any extra empty rows to keep the spreadsheet tidy.
2. Double-check the spreadsheet for consistency:
3. Ensure that all cells are visually aligned and formatted uniformly.
4. Confirm that dropdown menus for *R Year* and *Level* are correctly applied across all rows.
5. Verify that text wrapping is enabled (or disabled) as you prefer, particularly for the *Abstract* column.
6. Optionally, apply further cell formatting (e.g., bolding the titles or applying background colors) to enhance the visual appeal of the spreadsheet.
7. Save your changes. Your Google Spreadsheet is now neatly organized and ready for further processing in your Python projects or other applications.

## Conclusion

By following this guide, you have successfully navigated the Radiographics website, extracted key details for the top 10 articles, and organized all the information in a structured Google Spreadsheet. This setup not only streamlines manual data entry but also prepares the data for automation, analysis, and integration into future projects.

Happy charting!