

How to Chart Radiographics Top 10 Articles in Google Sheets

This guide explains how to automatically chart all the Radiographics Top 10 articles in a Google Sheet. The process includes navigating the Radiographics website, extracting article details such as title, authors, abstract, DOI, year, residency year, and article level, and organizing this data in a well-formatted Google Sheet that can later be used in a Python program or any other application.

Introduction

In this guide, you will learn how to:

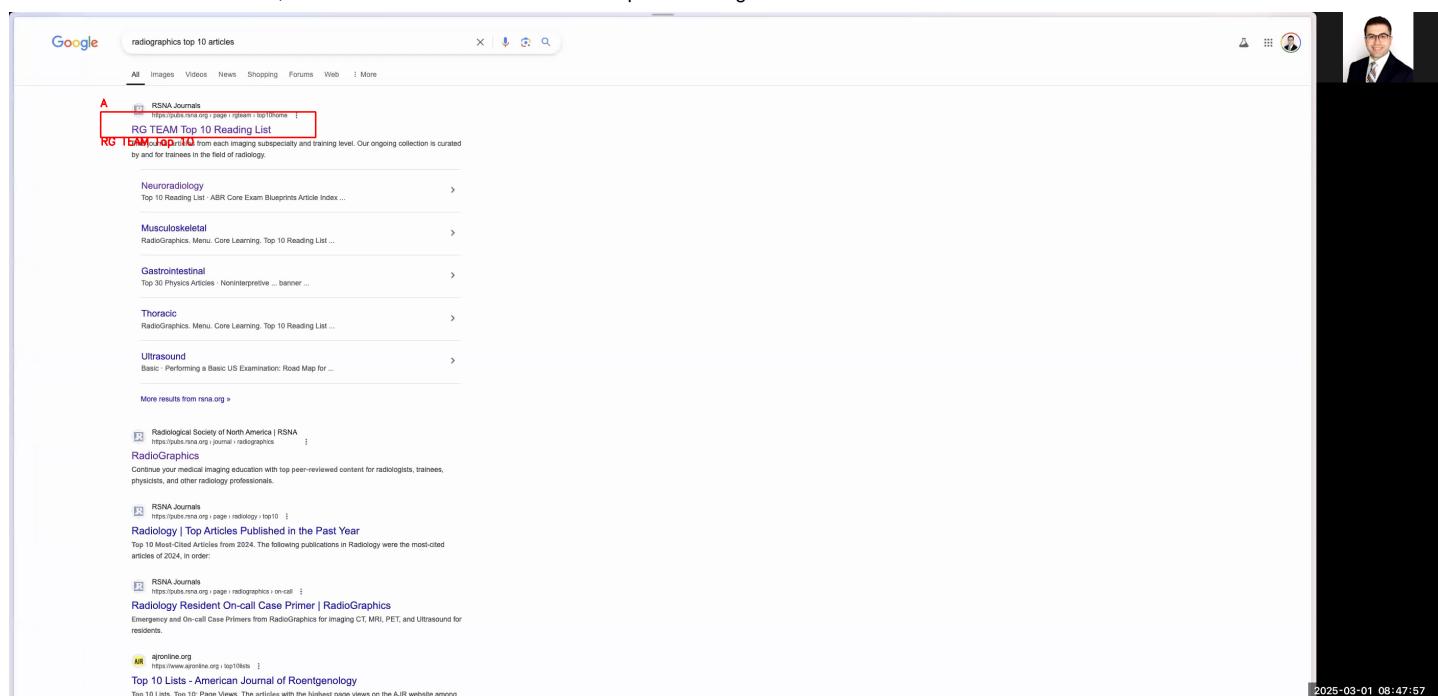
- Navigate to the Radiographics website and find the Top 10 articles list
- Drill down into article categories and open individual article pages
- Extract key article details (title, author, DOI, year, residency year, level, and abstract)
- Log into Google Drive, create a new folder and a Google Sheet
- Set up the Google Sheet with proper column headers
- Use drop-down menus and text formatting in Google Sheets to ensure a clean and organized appearance
- Paste and clean up article abstracts and other text information

Follow the step-by-step instructions below.

Step-by-Step Instructions

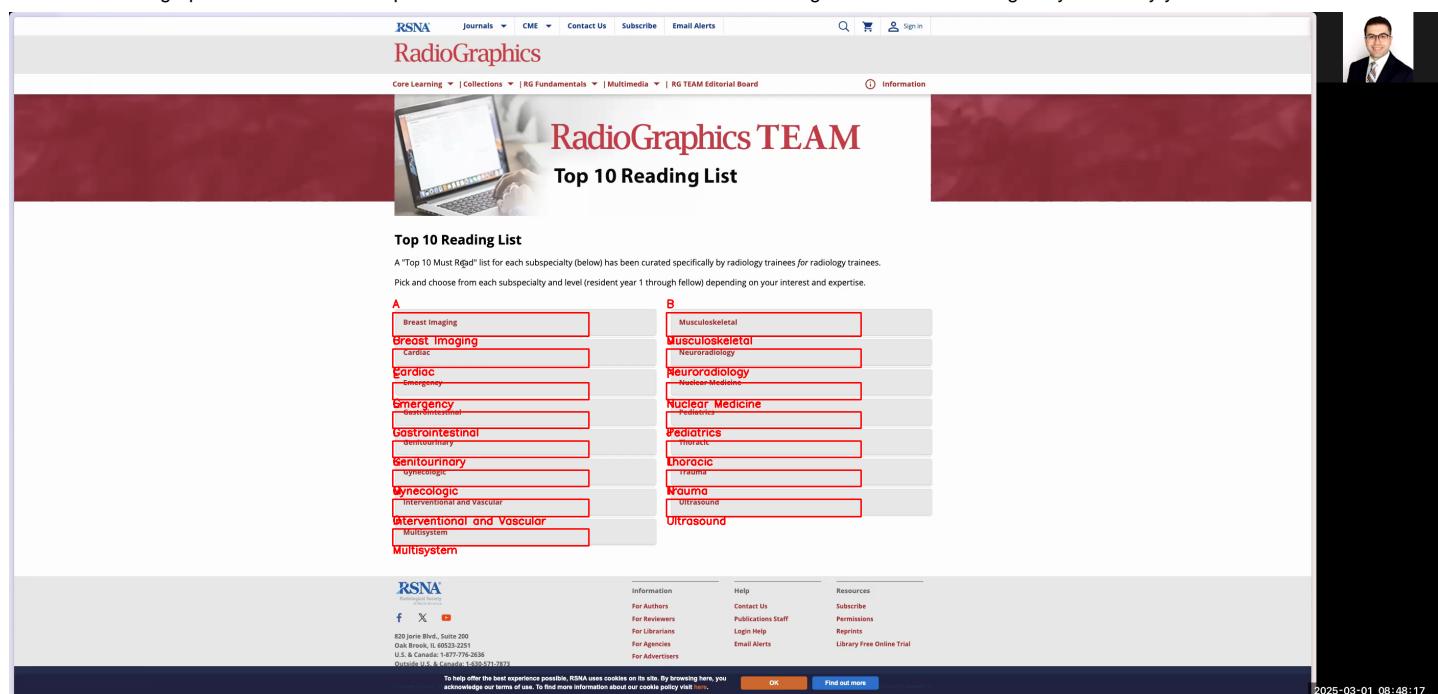
1. Open the Radiographics Top 10 Articles Page

1. Open your web browser and go to your preferred search engine (e.g., Google).
2. Type in "Radiographics Top 10 Articles" and press Enter.
3. From the search results, click on the link labeled "RG TEAM Top 10 Reading List".



The screenshot shows a Google search results page for "radiographics top 10 articles". The first result is a link to "RG TEAM Top 10 Reading List" from RSNA Journals. The URL is <https://pubs.rsna.org/page/green/top10home>. The snippet describes it as "RG TEAM Top 10 from each imaging subspecialty and training level. Our ongoing collection is curated by and for trainees in the field of radiology."

1. The Radiographics website for the top 10 articles will load. You will see various categories of articles arranged by residency years.



The screenshot shows the "Top 10 Reading List" page on the Radiographics website. The page features a banner for "RadioGraphics TEAM" and "Top 10 Reading List". Below the banner, there are two columns of categories: "Breast Imaging", "Cardiac", "Emergency", "Gastrointestinal", "Genitourinary", "Gynecologic", "Interventional and Vascular", "Multisystem", "Musculoskeletal", "Neurology", "Nuclear Medicine", "Pediatrics", "Thoracic", "Trauma", and "Ultrasound". Each category has a corresponding red box around its name. The footer contains the RSNA logo, contact information, and a cookie policy notice.

2. Drill Down Into a Specific Category and Open an Article

1. Click on any category of your choice (for example, "Breast Imaging").
2. You will see a list of articles sorted by residency years (e.g., R1, R2) and levels (e.g., basic, intermediate).
3. Click on an article (e.g., one under the basic category for R1 residents).

The screenshot shows the RadioGraphics website with a red header bar. The main title "RadioGraphics TEAM" and "Top 10 Reading List" are displayed prominently. Below the title, there's a section for "Breast Imaging" with tabs for "Resident Year 1", "Resident Year 2", "Resident Year 3", "Resident Year 4", and "Fellows". A timestamp "Updated September 23, 2024" is visible. The "Resident Year 1" tab is selected, showing a list of articles. One article, "Bi-RADS Terminology for Mammography Reports: What Residents Need to Know", is highlighted with a red box around its title and author information. The timestamp "Feb 15 2019" is also highlighted. Other articles listed include "Digital Breast Tomosynthesis: Physics, Artifacts, and Quality Control Considerations" and "Digital Breast Tomosynthesis in the Diagnostic Setting: Indications and Clinical Applications". The right side of the page shows a sidebar with "Information" and "Core Learning" sections.

Note: The full link of the article may not be accessible, but you only need the visible details for charting purposes.

3. Log Into Google Drive and Set Up Your Workspace

1. Open a new browser tab and navigate to <https://drive.google.com>.
2. If you are not already logged in, enter your Google account credentials. (Depending on your setup, you might need to use a specific email or passphrase.)

The screenshot shows the Google Drive login screen. It features a "Choose an account" button at the top left. Below it, two accounts are listed: "Pouria Rouzrok" (p.rouzrok@gmail.com) and "Pouria" (readingnondota@gmail.com), both marked as "Signed out". At the bottom, there's a "Use another account" section with a "Remove an account" button and a "Use another account" button. A red box highlights the "Remove an account" button. The timestamp "2025-03-01 08:49:26" is visible in the bottom right corner. The URL "Google Drive login screen" is at the bottom left.

4. Create a New Folder for Your Project

1. In Google Drive, click on the "New" button and select "Folder".
2. Name the new folder (e.g., RG-Top10-Articles).
3. Open the newly created folder.

A screenshot of the Google Drive interface. On the left, there's a sidebar with options like Home, My Drive, Shared with me, Recent, Starred, Spam, Trash, and Storage. The main area shows a list of files and folders under 'My Drive'. A red box highlights the 'New folder' button in the top-left corner of the main area. Another red box highlights the 'New folder' dialog box in the center, which contains the text 'RG-Top10-Articles'. The bottom right corner shows a timestamp: 2025-03-01 08:51:24.

5. Create a New Google Sheet and Set It Up

1. Inside the new folder, click on the "New" button again and choose "Google Sheets" > "Blank spreadsheet".
2. Rename the spreadsheet to Top10-Articles.
3. In the first row of the Google Sheet, add the following column headers:
4. A1: Title
5. B1: Author List
6. C1: DOI
7. D1: Year
8. E1: R Year
9. F1: Level
10. G1: Abstract

A screenshot of a browser window. On the left, there's a Google Sheets document with columns labeled A through G. The first row contains the column headers: 'Title', 'Author List', 'DOI', 'Year', 'R Year', 'Level', and 'Abstract'. On the right, there's a RadioGraphics article titled 'Digital Breast Tomosynthesis: Physics, Artifacts, and Quality Control Considerations'. The article includes author information (Nikki Tirada, Guang Li, David Dreizin, Luke Robinson, Gauri Khorjekar, Sergio Dromi, Thomas Ernst), a summary, and a list of references. The bottom right corner shows a timestamp: 2025-03-01 08:51:58.

6. Set Up Drop-Down Menus and Text Formatting

1. For the "R Year" column (column E), create a drop-down menu:
2. Right-click on cell E2 and select "Data validation".
3. Choose "List of items" as the criteria and enter: R1, R2, R3, R4.
4. (Optional) Set each value to have distinct colors if desired using the formatting tools.
5. For the "Level" column (column F), create a drop-down with possible values (e.g., Basic, Intermediate, Advanced).

The screenshot shows a Google Sheets document titled "Top10 Articles" and the RSNA RadioGraphics website. In the Google Sheets interface, a context menu is open over a cell in the "Level" column. The menu items include "Cut", "Copy", "Paste", "Paste special", "Insert 1 row above", "Insert 1 column left", "Insert cells", "Delete row", "Delete column", "Delete cells", "Convert to table", "Create a filter", and "Filter by cell value". A red box labeled "A" highlights the "Insert 1 row above" option. Another red box labeled "B" highlights the "Tables" option under "Convert to table". A third red box labeled "C" highlights the "dropdown" option under "Tables". A fourth red box labeled "D" highlights the "Smart chips" option under "Tables". A fifth red box labeled "E" highlights the "View more cell actions" option at the bottom of the menu.

1. Adjust text wrapping:
2. Ensure that cells (especially the Abstract column) are formatted to wrap text if necessary, or specifically set not to wrap if that suits your data cleaning preferences.

7. Populate the Google Sheet With Article Data

For each article on the Radiographics page, follow these steps:

1. Switch to the browser tab with the article page (or use a split-screen setup with the Google Sheet visible).
2. Copy the article title and paste it into the Title column (e.g., cell A2).
3. Copy the author list from the article page and paste it into the Author List column (e.g., cell B2). To remove any extra spaces or hidden characters:
4. Option A: Paste directly and then manually remove extra spaces.
5. Option B: Paste into your browser's address bar and then copy and paste back into the spreadsheet.
6. Copy the article's DOI (which is a link) and paste it into the DOI column (e.g., cell C2).
7. Manually type or extract the publication year (e.g., 2019) and paste it into the Year column (e.g., cell D2).
8. Use the drop-down in the "R Year" column (cell E2) to assign the residency year (e.g., R1).
9. Use the drop-down in the "Level" column (cell F2) to select the article's level (e.g., Basic).
10. Copy the article abstract and paste it into the Abstract column (e.g., cell G2). Use the text cleaning trick:
11. Paste the abstract into your browser's address bar to remove unwanted formatting and extra spaces, then copy the cleaned text and paste it into the spreadsheet.

The screenshot shows the same setup as the previous one, but now with a single row of data populated in the Google Sheets document. The first row contains the column headers: "Title", "Author list", "DOI", "Year", "R year", and "Level". The second row contains the data for the first article: "Digital Breast Tomosynthesis: Physics, Artifacts, and Quality Control Considerations", "Nikki Tirada, Thomas Ernst", "Feb 15 2019", "R1", "Basic", and the abstract text. A blue selection bar is visible below the second row, indicating it is selected. The RSNA RadioGraphics website is visible on the right, showing the "Top 10 Reading List" and other article thumbnails.

8. Repeat for All Articles

1. Return to the Radiographics website and navigate through each article category (e.g., different residency years, levels, and topics).
2. Repeat the data extraction and entry process for every article until all desired articles are charted in the Google Sheet.
3. Once completed, remove any unnecessary rows to keep the spreadsheet neat.

9. Finalize and Beautify the Spreadsheet

1. Review the sheet to ensure all data is correctly entered and formatted. Bold the titles or apply any additional styling to improve readability.
2. Confirm that drop-downs are working as expected and that no extra spaces or unwanted characters remain.
3. Notify your intended audience (or simply note to yourself) that the Google Spreadsheet is ready for use in any further processing (e.g., within a Python program).

Populated and Formatted sheet!

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) artifacts, and (c) quality control (QC) that are specific to DBT. Standard acquisition parameters commonly used in 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 number of projections determines resolution. Wider sweep angles allow greater out-of-plane (z-axis) resolution and improved visualization of mass and architecture distortion. A greater number of projections increases in-plane or x/y 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 achievable" (ALARA) radiation dose, regular QC must be performed. DBT is considered a new imaging modality, therefore, tomosynthesis facilities are required to obtain a separate certification in addition to that in FFDM, and all personnel (radiologists, technologists, and medical physicists) are required to complete initial DBT training and maintain appropriate continuing medical education credits.

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Article History

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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

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Conclusion

By following these steps, you will have successfully charted all Radiographics Top 10 articles in a Google Sheet. This guide provides detailed instructions for navigating the website, extracting necessary information, and organizing it in a structured, accessible format. The end result is a clean spreadsheet ready for further analysis or integration into your projects.

If you have any questions or need further clarification, feel free to ask!