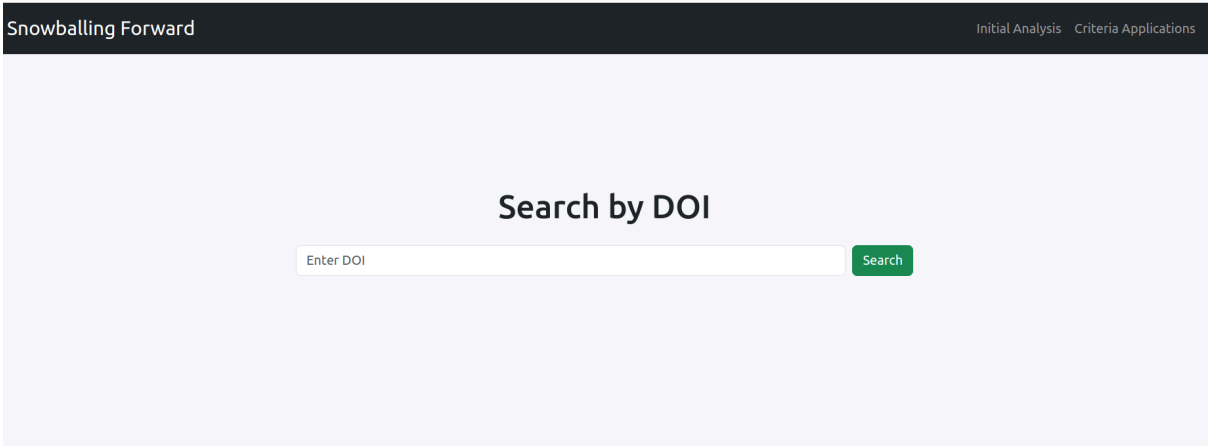


# Tool Usage Tutorial

The tool developed aims to support researchers in conducting systematic literature reviews using the forward snowballing method. It covers the entire process from retrieving citing articles to screening them based on predefined inclusion and exclusion criteria.

Through the application, users can perform article searches, carry out an initial analysis which includes summary statistics of the retrieved articles and apply the inclusion and exclusion criteria. This final step requires the researcher to provide a Gemini API key.

The application's main screen presents a menu with two options: Initial Analysis and Criteria Applications. It also includes a field where the user must enter a DOI (e.g., 10.1016/j.jss.2021.111044) to retrieve the articles that cite the corresponding publication.



The screenshot displays the 'Snowballing Forward' application interface. At the top, a dark header bar contains the title 'Snowballing Forward' on the left and two navigation links, 'Initial Analysis' and 'Criteria Applications', on the right. The main content area has a light blue background. Centered in this area is the text 'Search by DOI'. Below this text is a search bar with the placeholder text 'Enter DOI' and a green 'Search' button.

Upon entering the DOI in the designated field and clicking the search button, the application displays information related to the seed article and the articles that cite it.

For the seed article, the following metadata is presented: title, abstract, year, venue, DOI, and the number of citing articles (Cited by).

For the citing articles, the application displays a table containing: title, abstract, year, venue, DOI, and available actions such as Include and Exclude, allowing the user to select which articles will be considered for further analysis and criteria application.

Snowballing Forward

Initial AnalysisCriteria Applications

Search by DOI

10.1016/j.jss.2021.111044

Search

Seed

Title	Year	Venue	DOI	Cited by
Learning software configuration spaces: A systematic literature review	2021	-	<a href="https://doi.org/10.1016/j.jss.2021.111044">https://doi.org/10.1016/j.jss.2021.111044</a>	92

Cited ByDownload

Title	Abstract	Year	Venue	Doi	Actions
SESR-Eval: Dataset for Evaluating LLMs in the Title-Abstract Screening of Systematic Reviews	Background: The use of large lang...	2025	-	-	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
Prompting for Performance: Exploring LLMs for Configuring Software	Software systems usually provide ...	2025	-	-	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
Linux Kernel Configurations at Scale: A Dataset for Performance and Evolution Analysis	Configuring the Linux kernel to m...	2025	arXiv.org	10.48550/arXiv.2505.07487	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
A Conceptual Framework for Smart Governance Systems Implementation	Knowledge-based decision-makin...	2025	International journal of electronic governance and	10.4018/ijegr.376170	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude

By clicking on the abstract field of an article, the researcher can view the full content of the abstract.

Using the Include and Exclude buttons, the researcher selects which articles to consider or discard for analysis. Only the articles marked as Include are carried forward to the subsequent stages of the tool, such as the application of inclusion and exclusion criteria.

Snowballing Forward

Initial AnalysisCriteria Applications

Seed

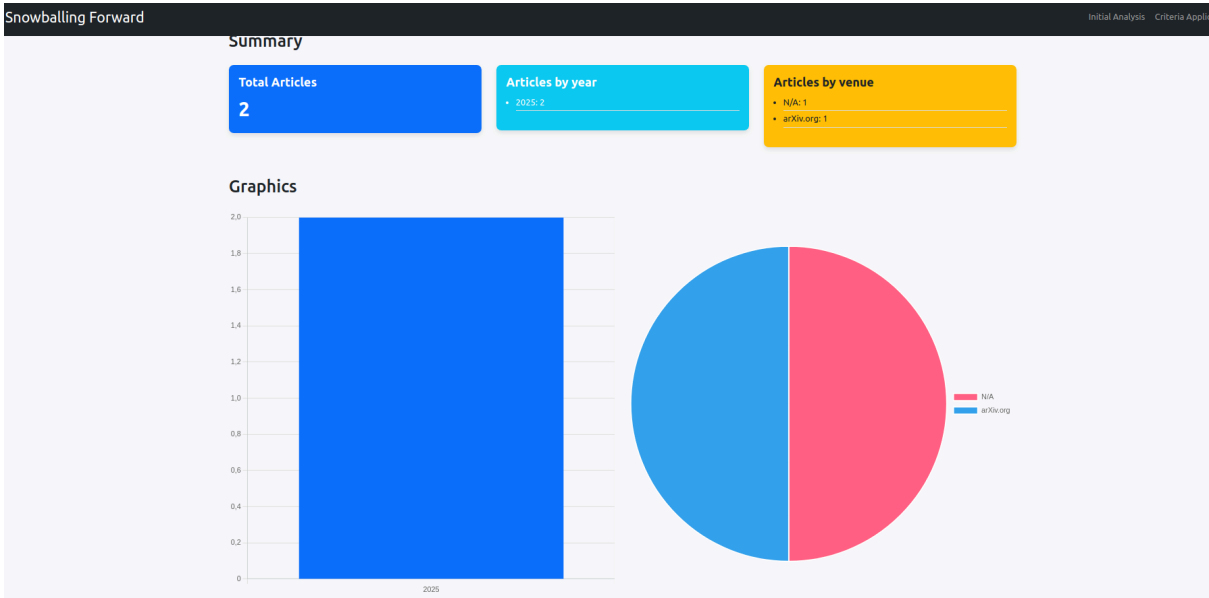
Title	Year	Venue	DOI	Cited by
Learning software configuration spaces: A systematic literature review	2021	-	<a href="https://doi.org/10.1016/j.jss.2021.111044">https://doi.org/10.1016/j.jss.2021.111044</a>	92

Cited ByDownload

Title	Abstract	Year	Venue	Doi	Actions
SESR-Eval: Dataset for Evaluating LLMs in the Title-Abstract Screening of Systematic Reviews	Background: The use of large language models (LLMs) in the title-abstract screening process of systematic reviews (SRs) has shown promising results, but suffers from limited performance evaluation. Aims: Create a benchmark dataset to evaluate the performance of LLMs in the title-abstract screening process of SRs. Provide evidence whether using LLMs in title-abstract screening in software engineering is advisable. Method: We start with 169 SR research artifacts and find 24 of those to be suitable for inclusion in the dataset. Using the dataset we benchmark title-abstract screening using 9 LLMs. Results: We present the SESR-Eval (Software Engineering Systematic Review Evaluation) dataset containing 34,528 labeled primary studies, sourced from 24 secondary studies published in software engineering (SE) journals. Most LLMs performed similarly and the differences in screening accuracy between secondary studies are greater than differences between LLMs. The cost of using an LLM is relatively low - less than \$40 per secondary study even for the most expensive model.	2025	-	-	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
Prompting for Performance: Exploring LLMs for Configuring Software	Software systems usually provide ...	2025	-	-	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
Linux Kernel Configurations at Scale: A Dataset for Performance and Evolution Analysis	Configuring the Linux kernel to m...	2025	arXiv.org	10.48550/arXiv.2505.07487	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
A Conceptual Framework for Smart Governance Systems Implementation	Knowledge-based decision-makin...	2025	International journal of electronic governance and	10.4018/ijegr.376170	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude
Unveiling the Impact of Sampling on Feature Selection for Performance Prediction in Configurable Systems	Modern software systems are hig...	2025	International Conference on Software Reuse	10.1109/ICSR66718.2025.00012	<input checked="" type="checkbox"/> Include <input checked="" type="checkbox"/> Exclude

By clicking on the Initial Analysis menu item, the application displays a dashboard with an initial analysis of the selected articles. The information presented includes: the total number

of articles, the distribution by publication year, and by venue. These data are visualized both as text summaries and through interactive charts.



By clicking on the Criteria Applications menu item, the previously selected articles are analyzed based on the criteria defined by the researcher. The screen displays two text fields where the researcher must describe the inclusion and exclusion criteria, entering each criterion on a separate line.

The screenshot shows the 'Snowballing Forward' application interface for defining criteria. The navigation bar at the top has 'Snowballing Forward' on the left and 'Initial Analysis' and 'Criteria Application' on the right. The main content area is titled 'Define Inclusion and Exclusion Criteria'. It contains two text input fields: 'Inclusion Criteria' and 'Exclusion Criteria', both with placeholder text 'Enter inclusion/exclusion criteria, one per line...'. Below the 'Exclusion Criteria' field is a blue 'Apply Criteria' button. At the bottom, there's a section titled 'Analysis Results' with a 'Download' link.

To use this feature, the researcher must have a Gemini API key and add it to the code as instructed in the README.md file.

After entering the criteria and clicking Apply Criteria, the results are displayed in a table, with Yes or No responses for each inclusion and exclusion criterion.

The results can also be downloaded in .csv format.

## Define Inclusion and Exclusion Criteria

Inclusion Criteria

The article is in English

The paper should be about configurable software systems

Exclusion Criteria

Pure artificial intelligence papers

Apply Criteria

Analysis Results

Download

Title	Inclusion Criteria 1: The article is in English	Inclusion Criteria 2: The paper should be about configurable software systems	Exclusion Criteria 1: Pure artificial intelligence papers
SESR-Eval: Dataset for Evaluating LLMs in the Title-Abstract Screening of Systematic Reviews	Yes	No	Yes
Linux Kernel Configurations at Scale: A Dataset for Performance and Evolution Analysis	Yes	Yes	No