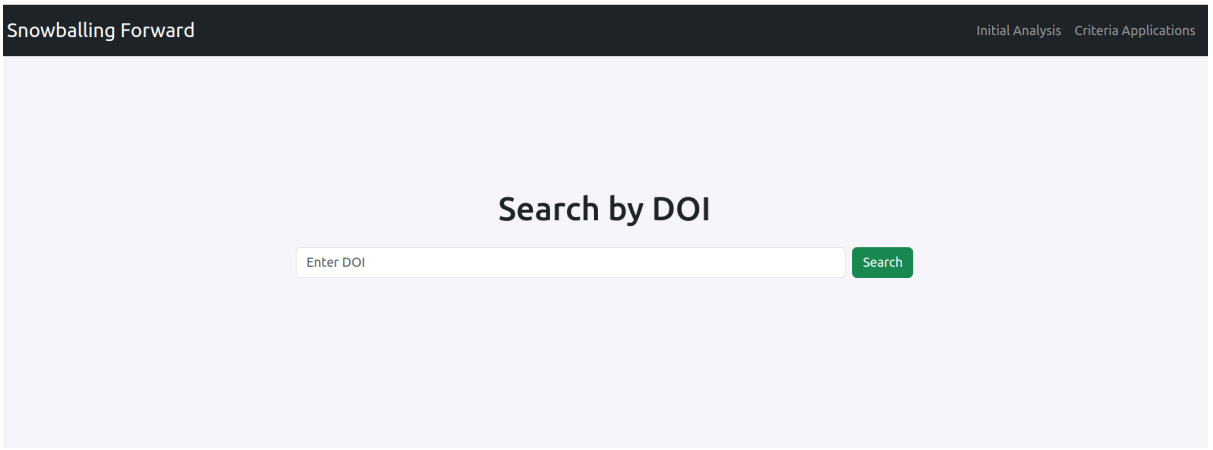
Tool Usage Tutorial

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.

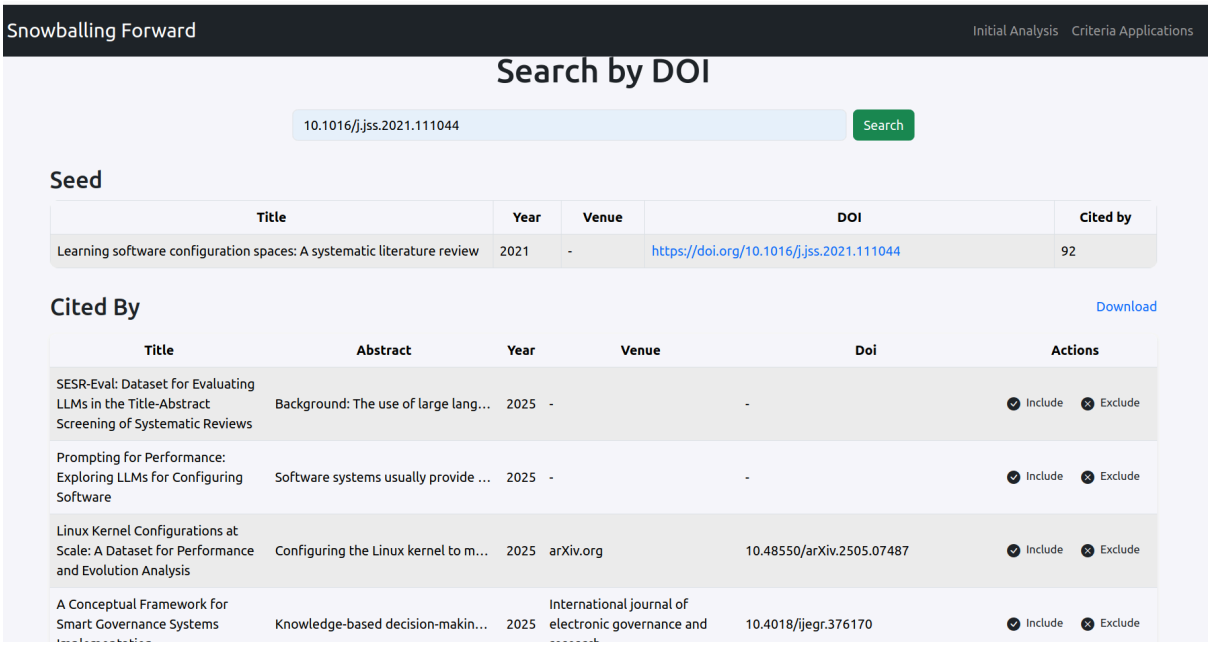
The application's main screen presents a menu with two options: Initial Analysis and Criteria Applications. It also includes a field where the user must enter a DOI (e.g., 10.1016/j.jss.2021.111044) to retrieve the articles that cite the corresponding publication.



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.

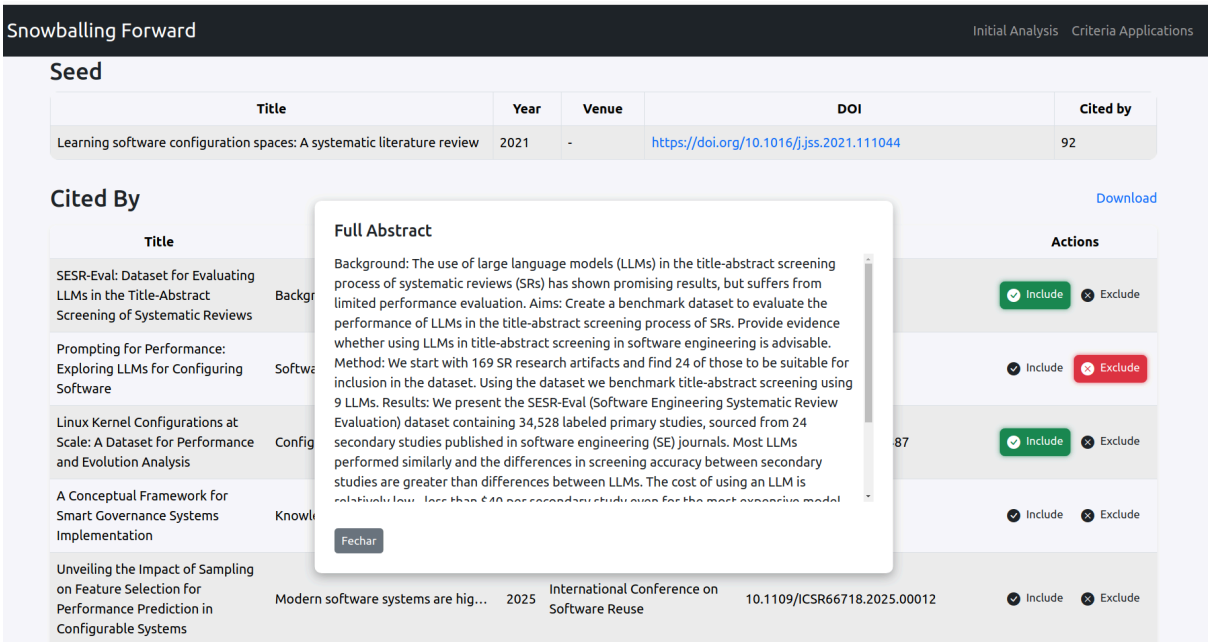
For the seed article, the following metadata is presented: title, abstract, year, venue, DOI, and the number of citing articles (Cited by).

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.



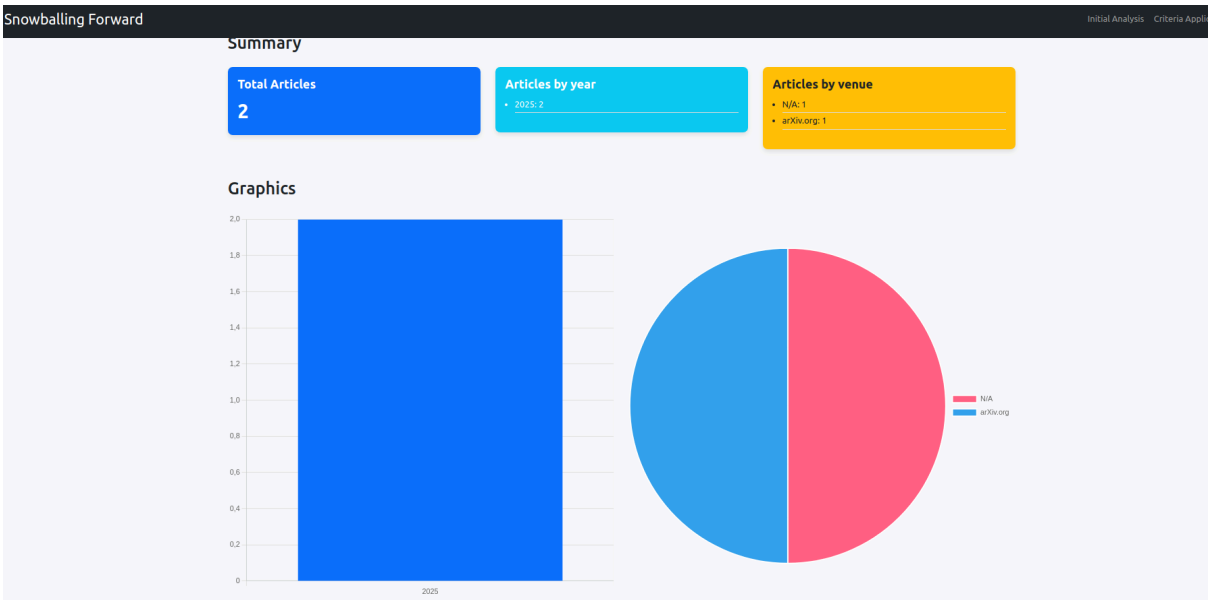
By clicking on the abstract field of an article, the researcher can view the full content of the abstract.

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.

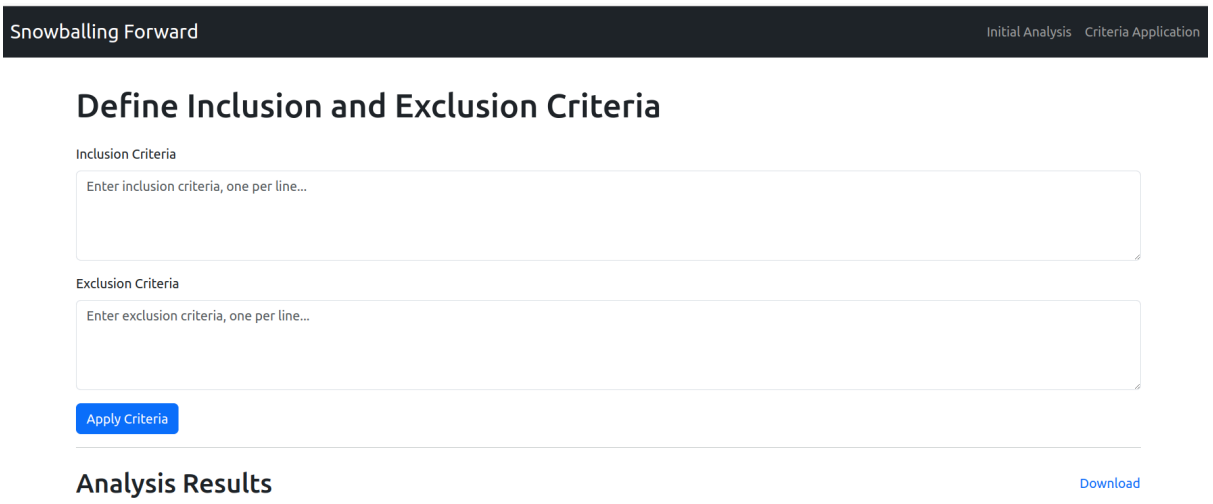


By clicking on the Initial Analysis menu item, the application displays a dashboard with an initial analysis of the selected articles. The information presented includes: the total number

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.



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.

Snowballing Forward

Initial Analysis Criteria Application

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