**Search string and filter settings**

Root string: software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR (best practice))

**ACM:**

**Search engine usage:** Advanced Search -> Search Within -> set to “anywhere”, then copy-paste the search syntax to its input box.

**Search Syntax:**

Title:(software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR (best practice))) OR Abstract:(software AND (API OR library OR package) AND (architecture OR structure) AND (construction OR guideline OR recovery OR (best practice))) OR Keyword:(software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR (best practice)))

**Filter (1600 results):** None

Solution: Removing design and **implementation** from abstract fixes the issue

Now: 381 results

**IEEE:**

**Search engine usage:** Advanced Search -> Command Search -> use the following command

**Search Syntax:**

(("Document Title": software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR "best practice")) OR ("Abstract": software AND (API OR library OR package) AND (architecture OR structure) AND (construction OR guideline OR recovery OR "best practice")) OR ("Author Keywords": software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR "best practice")))

**Filter (3774 results):** On the top of search results, check all options other than “book”

Solution: Removing design and implementation from abstract fixes the issue

Now: 1331 results

**Web of Science**

**Search Engine usage:** Advanced Search -> Query Preview -> enter the Search Syntax into the box -> click search -> select filter from the left side of search results.

**Search Syntax:**

(TI=(software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR "best practice"))) OR (AB=(software AND (API OR library OR package) AND (architecture OR structure) AND (construction OR guideline OR recovery OR "best practice"))) OR (AK=(software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR "best practice")))

**Filter (3370 results):** havechosen the following subject: CS Theory Methods, CS software engineering, CS information systems, CS interdisciplinary applications, CS AI, engineering multidisciplinary

Solution: Removing design and implementation from abstract fixes the issue

Now: 1060 results

**ScienceDirect**

**Search Engine usage:** ScienceDirect only allows 8 Boolean operators for each search. So the root string was broken into three pieces to search.

Go to Advanced Search -> show all fields -> select the input box for“Title, abstract or author-specified keywords”-> enter the following commands and search separately -> set filter on the left side of search results.

**Search Syntax:**

1. 191 results (with filter)

software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline)

1. 60 results (with filter)

software AND (API OR library OR package) AND (architecture OR design OR structure) AND (recovery OR "best practice")

1. 1290 results (with filter)

software AND (API OR library OR package) AND (architecture OR design OR structure) AND implementation

**Filter: “**Subject Areas”: Engineering and Computer Science

**Scopus**

**Search Engine usage:** Advanced Document Search -> enter the command

**Search Syntax:**

TITLE(software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR "best practice")) OR KEY(software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR "best practice")) OR ABS(software AND (API OR library OR package) AND (architecture OR structure) AND (construction OR guideline OR recovery OR "best practice"))

**Filter (6423 results):**

Subject: Computer Science, engineering,

Document type: Conference paper/review, article/review

Source type: Journal, Conference Proceeding

Solution: Removing design and implementation from abstract fixes the issue. Focus on Computer Science and exclude engineering

Now: 1136 results

**SpringerLink**

**Search Engine usage:** directly enter the root string into the general search box

**Root String:**

software AND (API OR library OR package) AND (architecture OR design OR structure) AND (construction OR guideline OR recovery OR implementation OR (best practice))

**Filter:**

* + 1. Exclude Preview-Only content by uncheck the yellow checkbox
    2. Discipline: Computer science
    3. Subdiscipline: Computer Science, general; Software Engineering
    4. Content type: Article (1898 results); Conference Paper (271 results)

Google Scholar:

**Search Engine usage:** use the “advanced search”function

**Search string:**

1. given the feature of google scholar abvanced search, put the following string into the “with at least one of the word”slot:

construction guideline recovery implementation

1. put the following strings into the“with all of the words”once a time:
   1. software API architecture construction OR guideline OR recovery OR implementation (5 pages)
   2. software API design construction OR guideline OR recovery OR implementation (13 pages)
   3. software API structure construction OR guideline OR recovery OR implementation (10 pages)
   4. software library architecture construction OR guideline OR recovery OR implementation (2 pages)
   5. software library design construction OR guideline OR recovery OR implementation (6 pages)
   6. software library structure construction OR guideline OR recovery OR implementation (2 pages)
   7. software package architecture construction OR guideline OR recovery OR implementation (4 pages)
   8. software package design construction OR guideline OR recovery OR implementation (5 pages)
   9. software package structure construction OR guideline OR recovery OR implementation (3 pages)