

Information Retrieval

Exercise – Winter term 2025/2026

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Agenda

1. TIRA Account
2. TIRA Token
3. TIRA Dry Run
4. TIRA Submission

Assignment

- ❑ Implement one or more retrieval systems
- ❑ Due Date: Monday, 15.12.2025, 23:59
- ❑ Deliverable: TIRA submission(s)

TIRA Account

TIRA Integrated Research Architecture

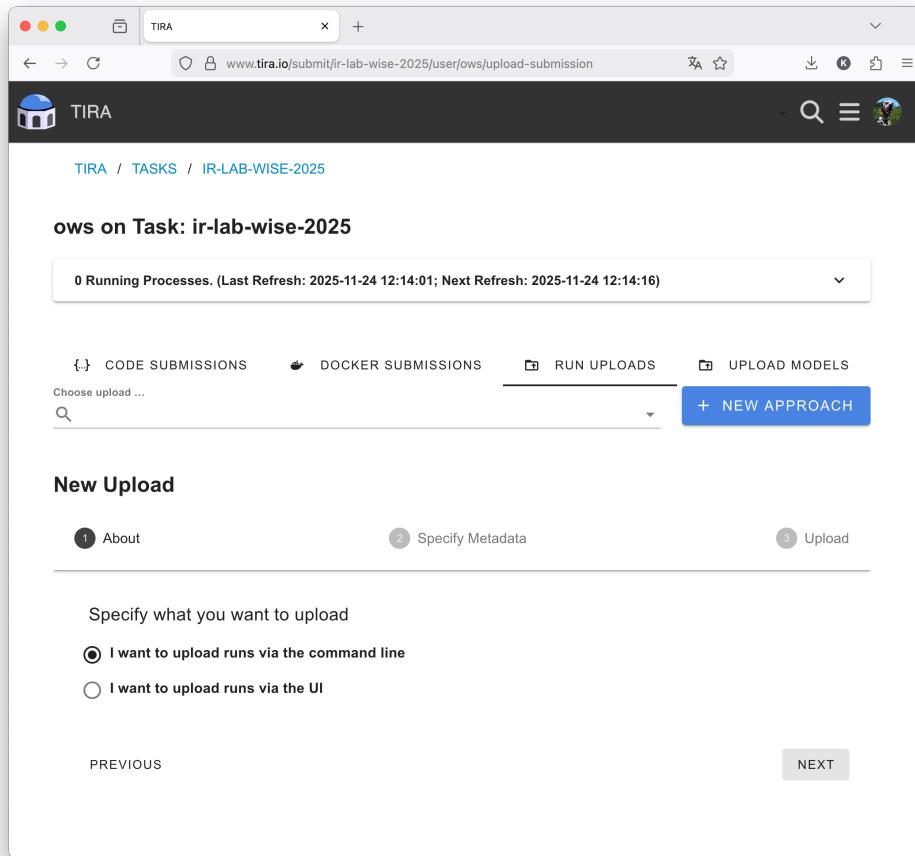
1. Sign up to TIRA.
 - You may use Login in with GitHub.
2. Go to GET STARTED.
3. Go to IR Lab Jena/Kassel/Radboud WiSe 2025.
4. Register your team.

If the team is already registered, any additional member must be added by the student who initially registered the team via TIRA.

TIRA Token

Upload Runs

(1) Go to IR Lab Jena/Kassel/Radboud WiSe 2025, (2) click on SUBMIT.



Display personal token for uploading runs to TIRA by clicking on NEXT.

TIRA CLI

The TIRA CLI is included in the Python-based TIRA client.

To install it, simply install the TIRA client via: pip install tira.

```
● klara@ws04 pyterrier-baseline % tira-cli --help
usage: tira-cli [-h] [-v] {download,upload,evaluate,login,verify-installation,code-submission,dataset-submission} ...

positional arguments:
  {download,upload,evaluate,login,verify-installation,code-submission,dataset-submission}
    download      Download runs or datasets from TIRA.io
    upload       Upload runs or datasets to TIRA.io
    evaluate     Evaluate runs locally.
    login        Login your TIRA client to the tira server.
    verify-installation
                  Verify that your local TIRA client is correctly installed.
    code-submission   Make a code submission via Docker from a git repository.
    dataset-submission Submit a new task/dataset to tira.

options:
  -h, --help            show this help message and exit
  -v, --version         show program's version number and exit
```

TIRA CLI help page * .

```
PROBLEME 5 AUSGABE TERMINAL ...
zsh - template-new-approach + ∨ □ ✎ ⌂ | ⌂ ×
● klara@ws04 template-new-approach % pwd
/Users/klara/Developer/Uni/WS2526/wows-code-ws2526/ecir26/template-new-approach
● klara@ws04 template-new-approach % ls output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title
ir-metadata.yml run.txt.gz
```

Ensure that the directory you upload follows the expected submission structure
described in the [README] file.

* As of 09.12.2025, TIRA version 0.0.193.

TIRA Dry Run

Verify your submission

! ir-metadata.yml x

```
ecir26 > template-new-approach > output > runs > radboud-validation-20251114-training > pyterrier-BM25-on-title > ! ir-metadata.yml
```

```
1 implementation:
2   executable: null
3   python:
4     interactive: false
5     modules: 3.10.12
6     packages:
7       - Deprecated==1.3.1
8       - GitPython==3.1.45
9       - Jinja2==3.1.6
10      - MarkupSafe==3.0.3
11      - PyGObject==3.42.1
12      - PyYAML==6.0.3
13      - Pygments==2.19.2
14      - asttokens==3.0.1
15      - beautifulsoup4==4.14.2
16      - cbor==1.0.0
17      - certifi==2025.11.12
18      - charset-normalizer==3.4.4
19      - click==8.3.1
20      - comm==0.7.3
21      - dbus-python==1.2.18
22      - debugpy==1.8.17
23      - decorator==5.2.1
```

PROBLEME AUSGABE TERMINAL DEBUGGING-KONSOLE PORTS

zsh - template-new-approach + x ...

klara@ws04 template-new-approach % tira-cli upload --dry-run --directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/
x The dataset is not defined. Please either define it in a ir-metadata.yml (data: test collection: name: ...) or pass --dataset.

Example for error upon invalid `ir-metadata.yml` file.

Placeholders for missing content of file is defined in the [submission-skeleton].

TIRA Dry Run

Verify your submission

```
! ir-metadata.yml x
ecir26 > template-new-approach > output > runs > radboud-validation-20251114-training > pyterrier-BM25-on-title > ! ir-metadata.yml

1   method:
2     description: |
3       This approach uses PyTerrier's BM25 implementation to retrieve documents based on their titles.
4       The BM25 parameters are set to their default values.
5       The retriever is configured to operate on the title field of the documents in the Radboud validation collection.
6     name: pyterrier-BM25-on-title
7
8   actor:
9     team: ows
10    ✨
11   data:
12     test collection:
13       name: radboud-validation-20251114-training
14
15   platform:
16     software:
17       # Which software and tools did you use for training, tunning and running your system?
18       # You can maintain the software that you used manually.
19       # Alternatively, you can use repro_eval or the tirex_tracker to track this.
20     libraries:
21       - pyterrier
22
23   implementation:

PROBLEME AUSGABE TERMINAL DEBUGGING-KONSOLE PORTS zsh - template-new-approach + ✎ ⌂ ⌂ ... | ⌂

klara@ws04 template-new-approach % tira-cli upload --dry-run --directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/
I check that the submission in directory 'output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/' is valid...
  ✓ I will check that the data in output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid ...
  ✓ The run in directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid.
  ✓ The file ir-metadata.yml is valid.

Result:
  ✓ The run is valid. I skip upload to TIRA as --dry-run was passed.
```

Example for valid `ir-metadata.yml` file.

If `tira-cli upload --dry-run` fails, log in first using `tira-cli login --token <YOUR-KEY>`. You can find `<YOUR-KEY>` as described on the slide “TIRA Token”.

TIRA Submission

Upload your solution

Make sure that your `ir-metadata.yml` file specifies <YOUR-TEAM-NAME> as the value for “actor: team:” (cf. previous slide).

```
▶ klara@ws04 template-new-approach % tira-cli upload --dataset radboud-validation-20251114-training --directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/
I check that the submission in directory 'output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title/' is valid...
✓ I will check that the data in output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid ...
✓ The run in directory output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title is valid.
✓ The file ir-metadata.yml is valid.

Upload output/runs/radboud-validation-20251114-training/pyterrier-BM25-on-title to TIRA: 100% [ 1.19M/1.19M ] [00:01<00:00, 634kB

✓ The data is uploaded.

I upload the metadata for the submission...
✓ Done. Your run is available as pyterrier-BM25-on-title at:
https://www.tira.io/submit/ir-lab-wise-2025/user/ows/upload-submission
```

Upload a valid submission following the steps described in the **TIRA** submission instructions.

You can find guidance on where to access the **TIRA** submission instructions on the slide “TIRA Token”.

TIRA

Inside the Dev Container

All commands demonstrated on the previous slide were executed outside the dev container. To run commands from within the dev container, you need to update the `.devcontainer.json` file, reload the container, and create the `.tira` directory.

The screenshot shows a terminal window with the following content:

```
{} .devcontainer.json > ...  
{} .devcontainer.json > ...  
1  {  
2    "dockerfile": "Dockerfile",  
3    "customizations": {  
4      "vscode": {  
5        "extensions": [  
6          "ms-python.python",  
7          "ms-python.vscode-pylance",  
8          "ms-toolsai.jupyter",  
9          "ms-toolsai.datawrangler",  
10         "ms-azurite.vscode-docker"  
11       ]  
12     },  
13   },  
14   "runArgs": [  
15     "--network=host", "--privileged"  
16   ],  
17   "mounts": ["source=/var/run/docker.sock,target=/var/run/docker.sock,type=bind"]  
18 }  
PROBLEME AUSGABE TERMINAL DEBUGGING-KONSOLE PORTS 11  
● root@docker-desktop:/workspaces/wows-code-ws2526/ecir26/template-new-approach# ls -la ~/  
total 60  
drwxr-xr-x 1 root root 4096 Dec 15 07:49 .  
drwxr-xr-x 1 root root 4096 Dec 15 07:10 ..  
-rw-r--r-- 1 root root 443 Dec 15 07:49 .bash_history  
-rw-r--r-- 1 root root 3106 Oct 15 2021 .bashrc  
drwxr-xr-x 1 root root 4096 Dec 15 07:10 .cache  
drwxr-xr-x 3 root root 4096 Dec 15 07:10 .dotnet  
-rw-r--r-- 1 root root 410 Dec 15 07:49 .gitconfig  
drwxr-xr-x 2 root root 4096 Dec 15 07:49 .gnupg  
drwxr-xr-x 20 root root 4096 Nov 23 19:09 .ir_datasets  
-rw-r--r-- 1 root root 161 Jul 9 2019 .profile  
drwxr-xr-x 2 root root 4096 Nov 23 19:09 .pyterrier  
drwxr-xr-x 2 root root 4096 Dec 15 07:10 .ssh  
drwxr-xr-x 3 root root 4096 Dec 15 07:19 .tira  
drwxr-xr-x 6 root root 4096 Dec 15 07:10 .vscode-server  
● root@docker-desktop:/workspaces/wows-code-ws2526/ecir26/template-new-approach# tira-cli verify-installation  
✓ You are authenticated against www.tira.io.  
✓ TIRA home is writable.  
WARNING:root:Set DOCKER_HOST to 'unix:///var/run/docker.sock'. Prevent this by explicitly setting the environment variable DOCKER_HOST.  
✓ Docker/Podman is installed.  
✓ The tirex-tracker works and will track experimental metadata.  
Result:  
✓ Your TIRA installation is valid.  
○ root@docker-desktop:/workspaces/wows-code-ws2526/ecir26/template-new-approach#
```

Additional mounts in the `.devcontainer.json` file and the required `.tira` directory.