

Resources for Combining Teaching and Research in Information Retrieval Courses

The Humboldtian Ideal



Wilhelm von Humboldt

- o 1767–1835
- o “Father” of the modern university

Humboldt argued that teaching and cutting-edge research go hand in hand

Research in IR is driven by shared tasks. Connecting IR labs to shared task can be an improve the **unity of research and teaching**.

Previous Iterations

Our resources **decouple shared task deadlines from course deadlines** via self-creation of topics and software submissions to TIRA/TIREx.

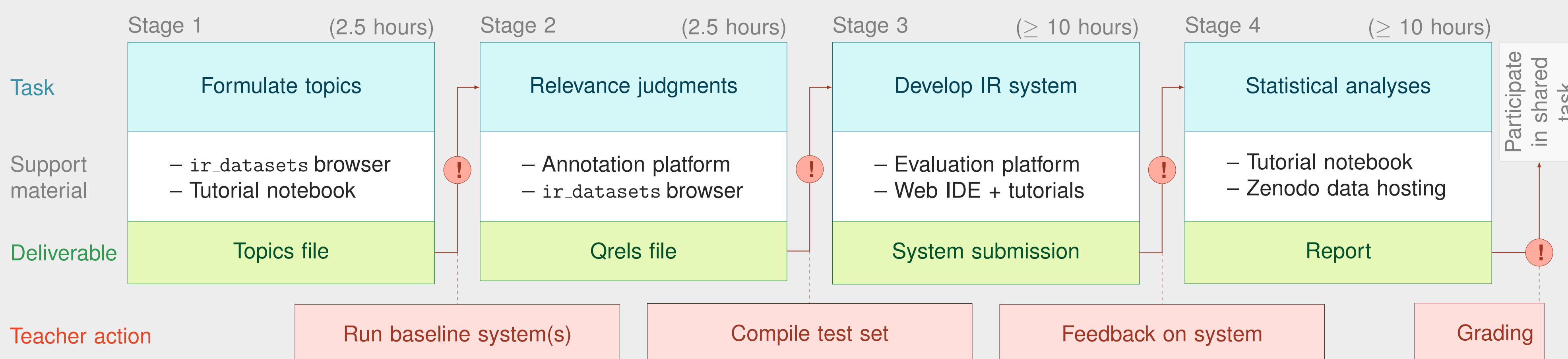
A shared task by students for students:

Semester	Course	Corpus	University
Summer semester 23	Bsc. + Msc. in CS	IR Anthology	Jena, Leipzig
Winter semester 23/24	Bsc. + Msc. in CS	LongEval	Jena, Leipzig
Winter semester 23/24	Bsc. in ISC Bsc./Msc. in CS	IR Anthology	Augsburg, Jena Leipzig, Köln
Next Semester	—	Suggestions Welcome	—

Consistent over all previous iterations:

- o Focus that students formulate an hypothesis
- o Top students outperform strong baselines
- o Topics contain highly interesting examples

Potential Course Workflow Supported By Our Resources



Overview of Components

Our resources build on/integrate: TIREx (ir_datasets + TIRA + PyTerrier), ir-measures, DiffIr, Dev-Container, Web-IDE, Github Actions.

Dashboard for brainstorming

- o Links to approaches, tutorials, corpora

Tutorials use Devcontainer standard

- o Web IDE boots into Docker image with everything installed

ir_datasets browser

- o Browse topics, runs (via DiffIR), qrels
- o Works on free tier of Github/Cloudflare pages

Reusing Previously Submitted Components

- o Declarative PyTerrier pipelines against caches



Future Work



github.com/tira-io/teaching-ir-with-shared-tasks

Questions for Future:

- o What corpus?
- o Aligning with which shared tasks?
- o What new or foundational IR components?

Scaling to more courses would be super cool. Please do not hesitate to contact us in case you would be interested with your IR course. Maybe we can identify substantial synergies among different IR courses.