

Criteria against which all submitted abstracts and papers for the AI Stream will be evaluated

Paper types: AI sub-committee for World Mining Congress 2023

All papers must meet the criteria:

- Is the paper well written?
- Is the need for the paper clearly motivated?
- Are the application/ resource/ research results described?
- Are related conclusions clearly stated and defended?
- Is the paper organised in a logical fashion?

Paper types (described below):

- 1) In-use applications papers ('Applied papers' – 2-page papers focussed on industry applications and trials in progress and in use)
- 2) Resources papers ('Open-access papers' 2-page papers to promote efficient and open sharing of data, workflows, algorithms, applications etc.)
- 3) Research papers – (traditional full-length academic papers to cover topics in more detail)

In-use applications papers

Seeks submissions describing applied or validated AI solutions such as algorithms, pipelines and software tools used in a mining environment and/or on mining company data.

Submitted papers/ presentations should:

1. Provide convincing evidence of the use of the application or tool by the target user group, preferably outside the group that conducted the development, *or*
2. Present the state of adoption of AI technologies in industrial settings, covering both success and discussions of obstacles and what was or is being done to overcome them, *or*
3. Describe projects that were not deemed successful but where important lessons were learned and can be described.

Review criteria for in-use applications:

Uptake:

- Are the stakeholders involved from both development and target user groups described?
- Is the evidence of the trial or adoption of the solution by a relevant user base (domain practitioners, the general public, developers, etc) convincing?
- What have been, or are, the anticipated challenges?

Impact:

- Are the technological, business and social impacts of the proposed solution described?
- What are the lessons learnt from the adoption of this AI technology/ process both from a technical and non-technical perspective?

Soundness and quality:

- Is the AI solution described in sufficient detail for the reader to understand key features necessary for its successful use?
- Is it clear how the solution is suitable for solving the task at hand?
- What evidence for the evaluation in terms of quantitative and/or qualitative metrics to assess the pros and cons of the proposed solution?

Submission

We invite submissions as a 2 – page paper as a minimum to encourage industry submissions. We will also accept full length papers in this track that following the formatting criteria of the research track. Each accepted paper (both 2 page and full length paper) will make a conference presentation.

Resources papers

Aims to promote the sharing of resources including, but not restricted to: datasets, ontologies/vocabularies, evaluation benchmarks or methods, software tools/services, APIs and software frameworks, workflows, crowdsourcing task designs, protocols, methodologies and metrics, that have contributed or may contribute to the advancement of AI in mining. As such, this track calls for contributions that provide a concise and clear description of a resource and its usage.

Review criteria for Resources papers:

Impact:

- Does the resource fill an important gap?
- Has the resource been compared to other existing resources (if any) of similar scope?
- Is it clear how the resource is suitable for solving the task at hand?

Reusability:

- Is the resource easy to (re)use? For example, does it have high-quality documentation? Are there tutorials available?
- Does the resource description clearly state what the resource can and cannot do?

Availability:

- Mandatory: Is the resource (and related results) published at a persistent URI (PURL, DOI, w3id)?
- Mandatory: Does the resource provide a licence specification? (See creativecommons.org, opensource.org for more information)
- Is the resource publicly findable and/ or available? For example is it registered in (community) registries (e.g. Linked Open Vocabularies, CKAN, DataHub) or is the code registered in generic repositories such as GitHub?
- Does the resource adopt open standards, when applicable? Alternatively, does it have a good reason not to adopt standards?

Submission

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Research papers are in the traditional academic format.

We encourage papers that contribute to the advancement of AI in mining.

Review criteria for Research papers:

Originality and relevance

- Is there a clear statement of the scientific contribution of the work?
- Is the business value this solution addresses described and justified?
- Is the current state of the art discussed (not just given as a listing of papers)?
- Are the need(s) for the new approach described and demonstrated against state of the art?

Technical soundness

- Is the problem clearly defined?
- Are assumptions described and their implications discussed?
- Are performance tests and other experimental evidence described?
- If the paper is about an algorithm then it is necessary to compare performance to at least one other algorithm (on the same data set) and preferably also on a 2nd data set.
- Are the inputs, outputs, and basic algorithms employed described?
- Does the paper carefully evaluate the strengths and limitations of its contributions?

Submission

This track only accepts full length papers. We use the format and length used by the main conference. Each accepted paper will make a conference presentation.