Assert Tracking using Agentic AI

line 1: 1st Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 2nd Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 3rd Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

line 1: 4th Given Name Surname
line 2: *dept. name of organization (of Affiliation)*
line 3: *name of organization (of Affiliation)*
line 4: City, Country
line 5: email address or ORCID

***Abstract*— A well-written abstract allows readers to grasp the core of your research without reading the entire paper. Begin with a concise introduction to the problem, clearly stating the specific research question. Then summarize your proposed solution, outlining inputs, outputs, design elements, implementation details (technologies, algorithms, etc.), and any unique features. Conclude with a brief description of your evaluation methods and findings. The abstract should be approximately one-fourth of a page. Avoid including citations, abbreviations, or limitations.**

***Keywords*— Include 4–6 keywords that reflect the core themes and technologies addressed in your research** *(e.g., Agentic AI, Assert Tracking, Artificial Intelligence, Machine Learning)*

I. Introduction

Begin with a broad overview of the research domain, tracing its origins, development milestones, significance, major achievements, current trends, and prevailing challenges. Clearly articulate your motivation and define your research problem. Support your discussion with citations from influential works in the field. This section may span more than half a page.

In the second paragraph, expand on your solution and summarize your key contributions. Include the rationale for your chosen approach or technology, any novel aspects, and a brief account of the testing environment and outcomes.

Conclude the introduction with an outline of the paper structure:
"The rest of the paper is organized as follows: Section II reviews related literature. Section III describes the adopted technology. Section IV details the methodology. Section V presents evaluation results. Finally, Section VI concludes the paper with a note on further work."

II. Literature Review

You may rename the heading to read like "Development and Challenges in Assert Tracking" to position your area of research. Critically review and summarize prior research chronologically or thematically: begin with early work, move through major milestones, and end with current trends and open challenges.

For each prior research work, mention:

- Main contribution (positive feature)
- Shortcomings (negative feature)
- Technology/methodology used

Each study should be summarized in no more than two sentences. End the section by restating your research gap or problem, positioning it within the reviewed literature.

III. Methodology

This section describes how your research was conducted. This is the most important section of a research paper. It should detail:

- The techniques, tools, and processes used
- Experimental setup and environment
- Data sources and preprocessing
- Implementation workflow

Be systematic and thorough. This section may exceed one page due to its importance. To complete the methodology, describe the Approach, Design, and Implementation as follows.

A. Approach

The Approach is how you conceptualize the solution. First, you can rename the heading as "Assert Tracking using Agentic AI" and give an acronym like **ATAgent** for your project. This acronym can be used to refer to your research anywhere in the paper and even outside.

Then, describe the approach by writing your

- Hypothesis, e.g., Assert tracking (**problem**) can be improved using Agentic AI (**technology**)
- Input and output details
- Process/actions
- Technologies identified
- Features and intended users.

This description can be concise—less than a quarter page—but must be clear and well-structured.

B. *Design and Implementation of ATAgent*

Provide a high-level design diagram depicting the system's architecture and module interactions. For each module:

- Briefly explain its function
- Specify tools, technologies (hardware/software), datasets, LLMs, or algorithms used
- Note any architectural patterns or frameworks adopted

The design diagram (or any other figure) should have a name and caption, for example, Fig. 1: Top-Level Architecture of ATAgent, located at the bottom of the figure. When referring to this diagram in text, you should use Fig. 1 as a citation.

The same convention is used when using Tables, except for writing the caption and name of the Table at the top of the Table, but not at the bottom, as in figures.

This section is expected to span over a page due to the diagram and module description with implementation details as well.

IV. Evaluation

Report findings with a focus on quantitative performance, using appropriate metrics (e.g., accuracy, precision, recall). Include:

- Visual aids (charts, graphs, tables)
- Interpretation of trends, anomalies, and patterns
- Comparisons with baseline or state-of-the-art approaches
- Statistical significance tests or error analyses (if applicable)
- Discussion on implications, strengths, and limitations of the approach

Conclude this section with how the results validate your hypothesis and advance the field

V. Conclutions

Summarize your research by stating the following points.

- Restating the research problem
- Highlighting the approach and main contributions
- Presenting key results and improvements
- Acknowledging any limitations or constraints
- Proposing future work directions

Maintain a balanced tone between achievement and forward-looking insights. Material in the Abstract and Conclusions should be consistent.

References

[1] You can add your references and citations using a tool like Zotero. Here, we practice the IEEE format.