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(57) Abstract :
The present invention relates to a multi-agent computing system (100) for interactive scientific discovery. The system includes a central processing unit (101), a persistent world state memory module (102), a planning agent processor (103), a data analysis agent unit (104), a literature search agent module (105), and a novelty detection agent processor (106). The persistent memory module maintains contextual information across iterative research cycles, enabling continuous hypothesis refinement. The planning agent decomposes research goals into executable tasks, while the data analysis agent performs automated dataset processing and knowledge generation. The literature search agent retrieves and ranks information from multiple academic sources. The system significantly reduces analysis time to minutes and improves accuracy by over fourteen percentage points compared to existing methods, particularly in computational biology applications.

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