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(54) Title of the invention : AN INTELLIGENT TASK SCHEDULING SYSTEM FOR PARALLEL COMPUTING

(51) International classification	:G06F 9/48, G06F 9/50, G06F 9/46, G06F 15/16, G06F 9/52	(71)Name of Applicant : <b>1)NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY</b> Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
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(57) Abstract :

An intelligent task scheduling system for parallel computing is disclosed. The system includes a task intake interface (101), a dependency parser (102), a workload characterization engine (103), a resource knowledge repository (104), a predictive scheduling core (105), a dispatch controller (106), processing resources (107), a runtime monitor (108), and a feedback adaptation module (109). Ready tasks are profiled, matched with current resource capabilities, and dispatched using suitability scores derived from execution, locality, and policy factors. Runtime telemetry refines later decisions, enabling improved utilization, reduced completion time, and adaptive operation across heterogeneous parallel computing environments.

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