Plan Overview

A Data Management Plan created using DMPTool

Title: Multi-level Adaptive Agents for Search Space Control

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Copyright information:

Multi-level Adaptive Agents for Search Space Control

The focus of this project will be on examining how the extensive amounts of information necessary for system optimization can be combined to meet a large number of system objectives. Several evolutionary algorithms using diversity control techniques will be used to create multiple solutions for sub-systems. These sub-systems will be combined using an agent-based management system that rank the candidates provided from the evolutionary algorithms on how well they integrate with solutions provided by the other evolutionary algorithms. Various machine learning techniques will be applied to the agents to determine how to best mediate the solution. Just as different algorithms perform better in certain classes of problems, it is proposed that different agents can mediate conflicting objectives better than others. A final step of this work is to develop an initial taxonomy of these agents to provide guidance on how to approach different many-objective problems. Data will be maintained and managed related to the interdisciplinary research theme of the proposal. Because this proposal only involves Missouri S&T personnel, data will be housed and managed through Missouri S&T as described below.

The research is not proprietary or restricted, thus the data will be maintained in a user-friendly and accessible manner. Access will be granted via an online system; data will be available for download and use, but uploading will be restricted in order to maintain data integrity. As allowable, the site will also provide access to journal and conference papers, technical reports, and other copyrighted materials. Assessment and outreach information will be coded to ensure that sensitive data is not compromised. Actual data will be securely maintained offline.

It is important to ensure the current usability and long-term preservation and access to research-related data. As stated above, Missouri S&T will provide data management through *Scholars' Mine* for all project data. PI, Dr. Steven Corns will have primary responsibility for interfacing with *Scholars' Mine*.

Question not answered.

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