

Plan Overview

A Data Management Plan created using DMPTool

Title: Multi-level Adaptive Agents for Search Space Control

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Multi-level Adaptive Agents for Search Space Control

Roles and responsibilities

The Data Management Plan should outline the rights and obligations of all parties as to their roles and responsibilities in the management and retention of research data. It must also consider changes to roles and responsibilities that will occur should a principal investigator or co-PI leave the institution.

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*.

Expected data

The Data Management Plan should describe the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the

course of the project. It should then describe the expected types of data to be retained.

Question not answered.

Period of data retention

The Data Management Plan should describe the period of data retention. Minimum data retention of research data is three years after conclusion of the award or three years after public release, whichever is later. Public release of data should be at the earliest reasonable time. A reasonable standard of timeliness is to make the data accessible immediately after publication, where submission for publication is also expected to be timely. Exceptions requiring longer retention periods may occur when data supports patents, when questions arise from inquiries or investigations with respect to research, or when a student is involved, requiring data to be retained a timely period after the degree is awarded. Research data that support patents should be retained for the entire term of the patent. Longer retention periods may also be necessary when data represents a large collection that is widely useful to the research community. For example, special circumstances arise from the collection and analysis of large, longitudinal data sets that may require retention for more than three years. Project data-retention and data-sharing policies should account for these needs.

Question not answered.

Data formats and metadata

The Data Management Plan should describe the specific data formats, media, including any metadata.

Question not answered.

Data dissemination and policies for public access, sharing and publication delays

The Data Management Plan should clearly articulate how "sharing of primary data" is to be implemented. It should describe dissemination approaches that will be used to make data available to others. Policies for public access and sharing should be described, including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements. Research centers and major partnerships with

industry or other user communities must also address how data are to be shared and managed with partners, center members, and other major stakeholders. Publication delay policies (if applicable) must be clearly stated. Investigators are expected to submit significant findings for publication quickly that are consistent with the publication delay obligations of key partners, such as industrial members of a research center.

Question not answered.

Data storage and preservation of access

The DMP should describe physical and cyber resources and facilities that will be used for the effective preservation and storage of research data. In collaborative proposals or proposals involving sub-awards, the lead PI is responsible for assuring data storage and access.

Question not answered.
