Attachment 1 – DAGSI Research Topic Template

NOTE: Under the Cooperative Agreement, Technical Directorates have three options for topics. First, a topic can strictly be considered in the pool for the state allocation of funding. DAGSI will work across the TDs for this allocation. Second, the TD can be prepared to be a funding partner with the State of Ohio. This would include: providing additional funds to support additional recipients of a topic, or expand the proposers team to include additional members on a topic. Third, the TD may elect to fully fund a topic not selected for State of Ohio funding or to pursue University teams outside the State of Ohio. Contact Terry.Cunningham.2@us.af.mil for questions

1. **Research Title:** Observations to infer AI states
2. **Individual Sponsor:**

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3. **Academic Area/Field and Education Level**

Electrical Engineering (MS or PhD level)
Computer Science (MS or PhD level)

4. **Objectives:** Inferencing internal AI methods from observations
5. **Description:** As autonomous systems and artificial intelligence (AI) components are developed, confusion often abounds about what these components are doing and what is happening during operations. Insight is needed into the actual operations and functions from observational or adversarial AI systems. This work aims to first develop or identify a problem set and apply a simple lexicon of behaviors from known AI methods, e.g. reinforcement learning and traditional planning. Finally, these extracted patterns should be identified to understand the mapping between observed behaviors and internal AI mechanisms.
6. **Research Classification/Restrictions:** unclassified
7. **Eligible Research Institutions:** Ohio State, Ohio University, University of Cincinnati

NOTE: Topics submitted to DAGSI must be approved for public release. Need PA Approval #