# [DARPA-SN-17-57](https://www.fbo.gov/index?s=opportunity&mode=form&id=3f2885886c97d05491ff3ac8f7968912&tab=core&_cview=0) (SCORE) Proposal (Round 2)

**Abstract**: This paper proposes **Ockham.io**, an open-source, web-platform, to automate in whole or part the algorithmic verification of scientific theories, hypotheses, and/or studies within the social and behavioral sciences per **TA3** - [**DARPA-SN-17-57**](https://www.fbo.gov/index?s=opportunity&mode=form&id=3f2885886c97d05491ff3ac8f7968912&tab=core&_cview=0).

Briefly, Ockham.io involves:

1. Explicitly **formalizing** embedded algebraic

structures for computer verification,

1. **Soft verification** through *corroborating*

*reputability* of researchers, institutions, journals, and citations;

1. **Natural language processing** to identify key terms,

experimental variables, and concepts under study;

1. Verifying **sound experimental design** and checking

for **logical consistency**, **numeric error**, **bias**, and mathematical rigor; and

1. Identifying how well the results, hypotheses, data,

or conclusions **cohere** or are compatible with other high-credence theories.

**1-5** specify the core requirements for **TA3**. **Ockham.io** will wrap these features with open-source public API’s to consume and distribute processed data; continuously verify the credibility of research; maintain audit logs; provide an archive of relevant mathematical systems to supplement the few existing web resources for such material; and monetize continued development, improved credence flagging and participation through an eventual cryptocurrency.

Adam InTae Gerard rev. 1.1.3 – 10.21.18