SUMMARY OF CHANGES

W911NF-17-S-0003 Amendment 01

Army Research Laboratory Broad Agency Announcement for Basic and Applied Scientific Research

1. <u>The following is added to Special Notes section of the announcement as item #3</u>:

See Appendix 2 for a Schedule of Amendments. Applicants are encouraged to frequently check Grants.gov and FBO.gov for updates and amendments to this BAA.

2. <u>The following is added to Section II.A.4</u>:

k. Artificial Intelligence and Machine Learning

The Government currently collects more data than it can meaningfully process. This includes image and video data, structured data sets for a variety of combat and non-combat missions (e.g. health, maintenance, logistics, and operations), and various, stove-piped, unstructured, massive data sets that exist primarily in the form of text documents. The vast scale of data collection challenges human-driven/human-only solutions to collection and processing.

The goals of this work are to increase the government's capacity to process that data by assisting and augmenting analysts through the application of artificial intelligence (AI) and machine learning (ML) algorithms, to include deep learning algorithms. Research will focus on experimental investigation and prototype development of AI/ML algorithms and capabilities. In addition, this research program will focus on helping analysts perceive and understand dynamic and unknown environments. Another research focus area includes the creation comprehensive models of real-world environments in which AI/ML entities facilitate course of action development by displaying intuition and improvisation characteristics in real-time, dynamic scenarios.

Elements of this research effort include new frameworks and tools for the creation of algorithms; tailored algorithms to perform discrete tasks, particularly in the fields of computer vision and language; innovative AI/ML computational environments; new labeling techniques to generate massive scale annotated data for supervised deep learning techniques; new methods of edge computation to bring deep learning algorithms to constrained computational environments; methods to evaluate and determine the effectiveness of algorithmic approaches; interfaces for the display, search, and interaction with algorithmically derived metadata and tabular structured algorithmic output; new techniques, hardware, software, and tools for the training, testing, and validating of algorithms; and storage and indexing capabilities for local algorithmically-produced data.

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3. The following is added to the announcement as Appendix 2:

APPENDIX 2: SCHEDULE OF AMENDMENTS

Amendments to this BAA will be issued according to the following schedule to incorporate programmatic or administrative changes to this document, if necessary.

NOTE: Amendments may be issued more frequently at the discretion of the Government.

Estimated Date of Issuance
November 1, 2017
March 1, 2018
June 1, 2018
November 1, 2018
March 1, 2019
June 1, 2019
November 1, 2019
March 1, 2020
June 1, 2020
November 1, 2020
March 1, 2021
June 1, 2021

(End Summary of Changes)