Task Order Request – Contract Label	DEPARTMENT OF **ECONOMIC SECURITY** *Your Partner For A Stronger Arizona*
Description: Data Analytics for Fraud Prevention and Detection	
Task Order No: TO21-000044	

1.   Task Order Signature Page

This Task Order is governed by the State of Arizona Contract No. ADSPO18-196282 for Cloud Services. In the event of a conflict between the terms in this Task Order, including any terms in Contractor's response to the Task Order Request, the terms of the Participating Addendum and Master Agreement shall prevail. SHI International Corp shall be acting as a Reseller of Google for Arizona Department of Economic Security as described within the Statement of Work/Task Order. The Partner in this Task Order is Google through Carahsoft.

Task Order Term: This Task Order shall be effective the date of last signature and shall end on 3/14/2021, or upon project completion, unless extended through a change order in accordance with the Statewide contract referenced above.

BY SIGNING THIS FORM ON BEHALF OF THE CONTRACTOR, THE SIGNATORY CERTIFIES HE/SHE HAS THE AUTHORITY TO BIND THE CONTRACTOR TO THIS CONTRACT.

FOR AND ON BEHALF OF THE
ARIZONA DEPARTMENT OF ECONOMIC SECURITY:

Mark Darmer
Signature of Authorized Individual

Mark Darmer
Typed Name

Acting Interim Chief Procurement Officer
Title

7-28-2020
Date

FOR AND ON BEHALF OF THE 3rd PARTY
PROFESSIONAL SERVICES CONTRACTOR,
Carahsoft:

Signature of Authorized Individual

Terry Drinkwine
Typed Name

Digitally signed by Terry Drinkwine
Date: 2020.07.28 08:25:27 -04'00'

Title

FOR AND ON BEHALF OF THE
STATEWIDE CONTRACTOR:

Kristina Mann
Signature of Authorized Individual

Kristina Mann
Typed Name

Senior Lead Contract Specialist
Title

07/28/20
Date

Contractor Mailing Address:

Contact Name:
Title:
Phone Number:

Fax Number:

E-Mail Address:

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2. Statement of Work

1. This Task Order is between the Arizona Department of Economic Security (ADES), SHI International Corp (Reseller) and Google (Partner) and is governed by the State of Arizona, Contract ADSPO18-196282 Cloud Services. In the event of a conflict between the terms in this Task Order, the terms of the Participating Addendum and Master Agreement shall prevail

2. **Purpose**

   2.1. Purpose Statement: The purpose of this task order is to provide data management and fraud detection services through neural data analysis engines to examine massive and complex data to assist in the detection of fraudulent unemployment insurance (UI) and Pandemic Unemployment Assistance (PUA) claims.

3. **Service Description**

   3.1. Actual Service Description: The Partner shall provide data management and fraud detection services by utilizing neural analysis engines to analyze current processed unemployment insurance claims data provided by ADES by way of the ADES's Pandemic Unemployment Assistance (PUA) transactional system and a modified data dictionary. The Partner will collaborate with ADES to establish a preliminary fraud scoring model by processing, cleansing duplicate data and model the ADES data to determine a scoring method for probability of fraud.

   3.2. Background: ADES has processed hundreds of thousands of unemployment claims through a newly established cloud hosted PUA transactional system in March 2020. To date over five (5) billion dollars have been processed for payments. Given the unprecedented volume in transactions and dollar amounts paid out, there is a significant concern over the extent of fraud. ADES anticipates over 750,000 UI claims to analyze.

   ADES will need the assistance of a data analysis company specializing in using neural (IT term for learning) analysis engines to examine this massive and complex data to determine the probability of fraud. This will be done in two stages.

4. **Definitions**

   4.1. PSO - Google Professional Services Organization
   4.2. SME - Subject Matter Expert
   4.3. VPC - Virtual Private Cloud
   4.4. API - Application Programming Interface

5. **ADES Responsibilities & Key Personnel**
   5.1. Google
       5.1.1. Paul Robles - Google Account Executive (Field Sales Representative)
       5.1.2. Zeke Bishop - Customer Engineer
       5.1.3. Reymund Dumlao - Head of State & Local Government Cloud Sales, West Region
       5.1.4. Steve Lujan - CE Manager, Google Public Sector West Region
       5.1.5. Lukman Ramsey - Global Public Sector Solutions Manager

   5.1.6.Dan Johnson - CE Manager, Google Cloud Public Sector
   5.1.7.Lawrence Gadsen - ADES Engineer
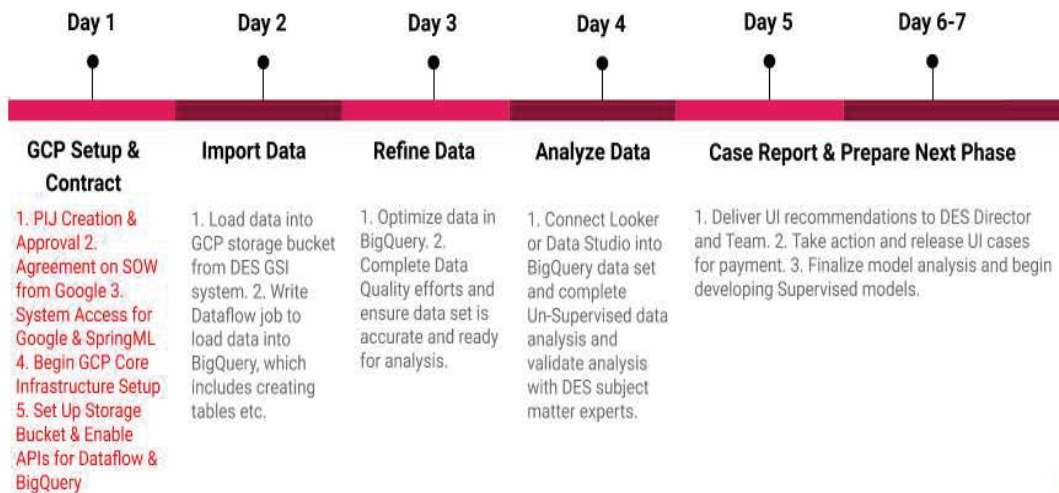   5.1.8.Len Zheleznyak - Senior Principal, Google Value Advisors

  5.2. ADES
   5.2.1.Danny Byrnes, Project Lead
   5.2.2.Kris Goins, Project Lead
   5.2.3.Durga Pattela, Chief Technology Officer
   5.2.4.Subbu Uppuluri, Data Analytics
   5.2.5.Bob Guidice, Data Analytics

6. Project Timeline

Fraud Detection Week 1 Detail

Detailed Action Items to Achieve Releasing UI Applications for Payment
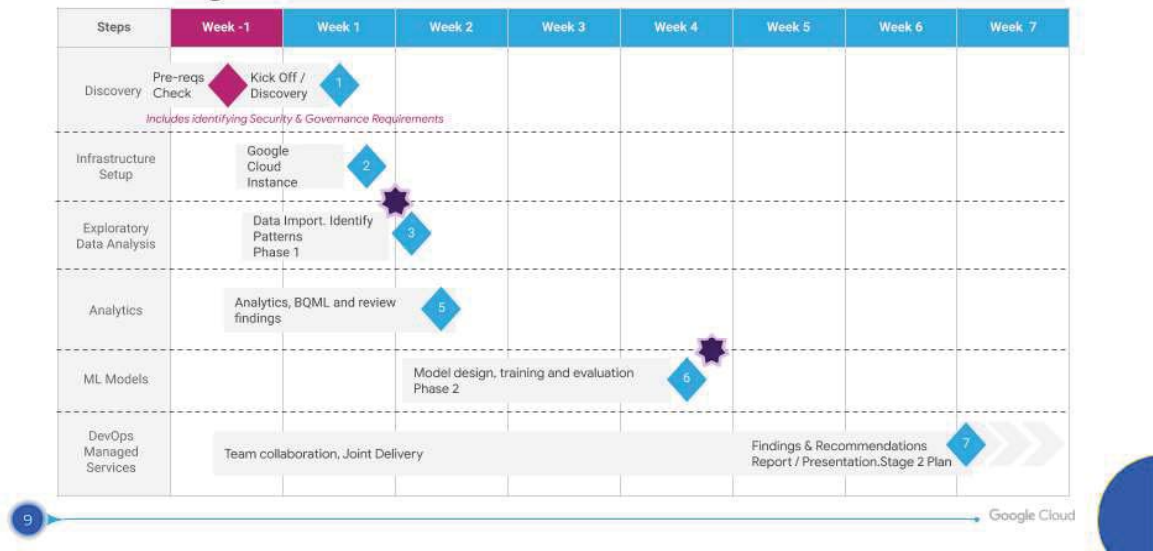
In Progress / Complete / Blocked

Day 1 — GCP Setup & Contract
1. PIJ Creation & Approval 2. Agreement on SOW from Google 3. System Access for Google & SpringML 4. Begin GCP Core Infrastructure Setup 5. Set Up Storage Bucket & Enable APIs for Dataflow & BigQuery

Day 2 — Import Data
1. Load data into GCP storage bucket from DES GSI system. 2. Write Dataflow job to load data into BigQuery, which includes creating tables etc.

Day 3 — Refine Data
1. Optimize data in BigQuery. 2. Complete Data Quality efforts and ensure data set is accurate and ready for analysis.

Day 4 — Analyze Data
1. Connect Looker or Data Studio into BigQuery data set and complete Un-Supervised data analysis and validate analysis with DES subject matter experts.

Day 6-7 — Case Report & Prepare Next Phase
1. Deliver UI recommendations to DES Director and Team. 2. Take action and release UI cases for payment. 3. Finalize model analysis and begin developing Supervised models.

Full Project Schedule

7. **Partner Requirements**

7.1. General Requirements
The Partner shall:

7.1.1. Comply with ADES policies and procedures. Compliance requirements include Data Sharing Request/Agreement which shall be executed prior to Task Order effective date.

7.1.2. Adhere to a standardized Agile project management methodology.

7.1.3. Partner Key Personnel Roles & Responsibility
7.1.3.1. It is essential that the Partner provides adequate staff of experienced, certified/qualified personnel, capable of providing the services to be performed under this Task Order.
7.1.3.2. The Partner shall assign specific individuals as Key Personnel intended to provide services under this Task Order, list of Key Personnel to be provided to ADES upon award.
7.1.3.3. Key Personnel shall not be removed or replaced without advance notice to ADES.
7.1.3.4. Should advance notice be impossible due to circumstances beyond the Partner's control, written notice shall be provided within seven (7) business days.
7.1.3.5. The Partner shall provide ADES with a revised Key Personnel document for replacement of Key Personnel.

7.1.3.6. If the Partner replaces Key Personnel, it shall be with personnel of substantially equal ability and qualifications and shall not affect the ability to meet all schedules and deliverables.

7.1.3.7. The Partner shall bear all transitional expenses incurred due to replacement of any Key Personnel. Transitional expenses shall include all costs associated with the preparation of replacements for Key Personnel, such that replacements are to be prepared to productively continue from the point where replaced Key Personnel finished.

7.1.4. Subcontractor: It is understood that the Partner will engage with SpringML, Inc. for Professional Services, including accessing data, and will be working as a subcontractor under this Task Order. The Partner's uses of SpringML, Inc. shall not release the Partner from its obligations under this Task Order.

8. Service Requirements

8.1. <u>Phase 1: Data Ingestion and Analytics</u>
The Partner shall:

8.1.1. Configure and implement a cloud infrastructure deployment with the assistance of ADES.

8.1.2. Design and develop a data ingestion pipeline to import data provided by ADES into BigQuery.

8.1.3. Conduct an analysis of the data to determine the likely indicator or combination of indicators that might otherwise indicate that a given record is or is not fraudulent.

8.1.4. Develop reports on discovered patterns and behaviors identified in the analysis of the data provided.

8.1.5. Develop and provide ADES with modeling designs and validation guidelines.

8.1.6. Provide weekly status reports and conduct regular update meetings with ADES

8.2. <u>Phase 2: Machine Learning Modeling</u>
The Partner shall:

8.2.1. Analyze UI data provided by ADES to detect and prevent fraudulent claims utilizing an automated Machine Learning (ML) system running on the Google Cloud Platform.

8.2.2. Develop a fraudulent scoring tool that identifies probability of fraud of UI claims.

8.2.3. Based on the data analysis the Partner shall provide data sets and or data files that include the following:
  8.2.3.1. A data set based on the established fraudulent scoring model that has an agreed upon percent probability of not being fraudulent. This data set would be provided to the transactional system with a defined confidence level for payment processing. This data set sharing will be approved by ADES staff, not Google/SpringML.

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8.2.3.2. A data set based on the established fraudulent scoring model that has an agreed upon percent probability plus probability of being fraudulent. This data set would not be provided to the transactional vendor and should immediately have follow-up by ADES.

8.2.3.3. A file that hits neither threshold will require more assessment by ADES. It should be noted that each iteration of this process (which could be daily or weekly) will increase the knowledge of the neural analysis engine. This will ultimately decrease this file and increase the data and confidence levels of the other 2 files.

8.2.3.4. Apply data analytics to claimant, employer and other data, to identify trends associated with fraud schemes including Fictitious Employers, Identity Theft, Misclassified Workers, New Hire cases, and Claimant fraud.

8.2.4. Participate in daily touchpoint meetings with key ADES stakeholders.

8.3. ADES Responsibilities:

8.3.1. Designate SME expert to review data field values as required.

8.3.2. Designate Infrastructure SME to review data integration and security guidelines.

8.3.3. Review the results of exploratory data analysis and provide feedback on the data patterns.

8.3.4. Provide access to all data necessary required for the work to be completed and as requested.

8.3.5. Provide technical personnel to support system administration, access, and database administration for this project.

8.3.6. Be responsible for User Acceptance Testing (UAT) relative to both the creation of test scenarios and the testing of the solution.

8.3.7. Provide reasonably quick and expeditious resolution for business questions or issues arising from the data integration and solution design efforts.

8.3.8. ADES will assign the following resources to the engagement:
8.3.8.1. Customer Sponsor - Customer executive responsible for all Customer approvals.
8.3.8.2. Customer Point of Contact (POC) - Primary Customer contact, responsible for all engagement-related issues.
8.3.8.3. Customer Architect - Customer contact who has authority to make all architectural decisions.
8.3.9. Customer Staff - Customer contact who will work day-to-day with Google resources..

9. Tasks/Deliverables:

9.1. Phase One (1):
9.1.1.Program Charter - A detailed charter defining the phases, project plan, and deployment strategy along with the results of Exploratory Data Analysis
9.1.2.Detailed documentation on exploratory analysis and analytics
9.1.3.Machine Learning model design document
9.1.4.Weekly Reports

9.2. Phase Two (2)
9.2.1.1. Fraudulent Scoring Tool
9.2.1.2. Data File Reports – Probability of Fraud
9.2.1.3. Data File – Non-Probability of Fraud
9.2.1.4. Weekly Reports

9.3. Phase Three (3) – Ongoing professional services, as needed, at the discretion of ADES. Professional Services for this phase, if needed, will be further defined in an amendment to this Task Order in accordance with the Change Order requirements stated herein.

10. Payment

10.1. Payments will be made in accordance with the tables below.

10.2. ADES will pay the Annual Subscription fee in advance for a total of twelve (12) months. Subscription shall be valid for the twelve (12) month period and ensure access by ADES to further utilize the Google Cloud's AI/ML analytics engine after the project completion.

Product	Desc	Cost
Google Cloud Platform Service (Ent Agreement)	Annual Subscription AI/ML	$842,927.70

10.3. ADES, Contractor, and the Partner agree there will be no charge for Phase One services and deliverables. The units set forth below shall be the basis for the professional services price. Each unit of measure at the price per unit will be based on allocated resources by the Partner. Should allocation of resources change in a Phase, The Partner and ADES shall mutually agree to expand or decrease the price per unit not to exceed the amounts per Phase below.

Product	Desc	Unit of Measure	Price per Unit	Not to exceed amount
Phase 1 Professional Services:	Data Ingestion and Analytics	N/A	N/A	N/A
Phase 2 Professional Services:	Machine Learning	Per Cloud Deploy	$20,000	$500,000

Phase 3 Professional Services:	Machine Learning	Per Cloud Deploy	$20,000	$500,000

10.4. This Task Order is a firm fixed price and **is** inclusive of all costs associated with the development and implementation of the Data Analytics for Fraud Prevention and Detection, including direct and indirect services, staff time, participation at staffing meetings, travel time, mileage, administrative costs, including insurance and all overhead. ADES shall not pay separately for these or any other costs.

10.5. Payment shall be in accordance with section 4 of the Uniform Terms and Conditions. Upon written ADES acceptance of each Deliverable, the Contractor shall submit a complete and accurate invoice for such Deliverable.

   10.5.1. Contractor's invoices shall include the following:
      10.5.1.1.   The Contractor's name and address (include payment address, if different).
      10.5.1.2.   The Contract Number and Task Order Number
      10.5.1.3.   The completion date of each Deliverable
      10.5.1.4.   Applicable sales tax
      10.5.1.5.   The total amount due

11. Reporting Requirements

11.1. The Partner shall submit for approval to ADES the format for all reports and revised as needed during the contract duration to better meet the needs of ADES.

11.2. The Partner shall submit weekly status reports during the task order term. Weekly updates to a contractor-managed project schedule including, but not limited to:
   11.2.1.   Milestones/Deliverables
   11.2.2.   Activities with start/end and actual start/end dates

11.3. Weekly Status Report including, but not limited to:
   11.3.1.   Status of work in progress/completed the prior week
   11.3.2.   Activities to complete next milestone/deliverable with dates

12. Notices
The Contractor shall address all correspondence/notices regarding this contract to:

   Arizona Department of Economic Security
   Division of Employment & Rehabilitation Services
   Attn: Durga Pattela
   1789 W Jefferson St, 2nd Floor SE
   Mail Drop 51F1
   Phoenix, AZ. 85007-3202
   DPattela@azdes.gov

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13.1.   Google Cloud Master General Terms

    13.1.1.   https://static.carahsoft.com/concrete/files/4615/8531/3909/Public_Sector_Terms_of_Service_-_PSO_-_2020.pdf

3. ADES Task Order Special Terms and Conditions

1. **Acceptance**

   Acceptance criteria for Task Order selection, project milestones and project completion shall require ADES sign off on an Acceptance document prepared by the Contractor(s). A standardized Acceptance document format shall be determined by the Requesting Entity and Contractor(s). Task Order selection, projects or any project milestones are not accepted by the ADES until a signed Acceptance document is completed. Acceptance criteria for projects that are exclusively individual consultant resources require State approval of hours for each time period invoiced for each individual consultant resource.

2. **Change Order Request**

   A Change Order Request must comply with A.R.S. R2-7-604. In the event a change order is required, all change orders must be approved in writing by both authorized parties prior to any changes taking place.

3. **Data Sharing Agreement**

   3.1. When determined by ADES that sharing of confidential data will occur with the Partner, the Partner shall complete ADES Data Sharing Request Agreement and submit the completed Agreement to ADES Program Designated Staff prior to any work commencing or data shared. A separate Data Sharing Request Agreement shall be required between the Partner and each ADES Program sharing confidential data.

   3.2. The Data Sharing Request Agreement is located at: http://des.az.gov/documents-center. In the "Search" field type "Data Sharing" and click "Search". The search will produce the following results:

      3.2.1. Document Number J-119-Single (For requests involving a single division or program).

4. **Partnership Agreement**

   4.1. Contractor shall ensure execution of Partnership Agreement with the Partner performing services under this Task Order. The executed Partnership Agreement shall be made available upon request of ADES.