**Fall Internship/CO-OP Project Descriptions**

Fall CO-OP Project 9 Data Science and Dynamic Trust for MDM

**Introduction:** Revolutionary Integration Group Inc. Enables out of the box AI/ML product integration, adaptive system fusion with emerging systems by leveraging our trusted integration methodology.

**Scope of the Project:** Research and create Python engineering code for a Dynamic Trust AI implementation on an agent for a Mobile Device Management (MDM) architecture. The Python engineering code should include the development of functional validation blended with the Dynamic Trust AI implementation. Select a workflow and/or use case to build out into an engineering prototype and demonstrate the Dynamic Trust empowered agent fortified with functional validation in mobile device simulation app demo in Python.

**Tasks:**

-Research and define a data structure and data flow of one to many agents in a distributed network for mobile devices.

-Research and define how the data structure, communication, and flow requirements work with a Dynamic Trust empowered agent(s) in a mobile device network.

-Create a Dynamic Trust empowered agent in a mobile device network (UML and architecture drawings).

-Discuss and define KPIs

-Research and identify representative use cases.

-Design the data architecture and Dynamic Trust SW architecture on an agent for mobile devices.

-Develop and test Python code to:

Enable functional validation on an agent in a representative mobile device network.

Enable functional validation and Dynamic Trust control protocols on an agent in a representative mobile device network.

-Develop an app simulation in Python for the Dynamic Trust empowered agent in a representative mobile device network.

-Deliver all engineering code for Dynamic Trust

-Prepare and produce weekly and monthly project reports

-Prepare and present end of project product app demonstration.

Fall CO-OP Project 10 Data Analytics Description

**Introduction:** Revolutionary Integration Group Inc. Enables out of the box AI/ML product integration, adaptive system fusion with emerging systems by leveraging our trusted integration methodology.

**Scope of the project:** Conduct an in-depth scientific literature study and market research of **Validated Trust** in multi-agent networks and how it is used in various industries (Enterprise and IoT) delineating the key variables; benefits, performance, costs, value and impact on AI/ML decision making.

**Tasks**

-Perform a comprehensive research study drawing from the business industry, the technical industry, and scientific literature on **Trust within networks**. From the findings, compose a definition of Validated Trust and address the key variables in each of the sectors. Define a compelling story to demonstrate and showcase the capabilities of the system to a third party. In this task, develop a plan for the execution of a Dynamic Trust demonstration, which includes the joining and de-joining of multiple heterogeneous agents to RIG’s NIMBUS cloud. Graphically design and define the anticipated results for various inputs of activities occurring in the Background and Foreground of the NIMBUS cloud and NIMBUS state matrix (what will the demonstration look like). Use cases will be provided by RIG Inc.

-Perform market research that identifies who the top global companies that offer **Trust** Software as a Service (SaaS), for different industries, Enterprise, and IoT. Capture and report on the business model used by each, key discriminators of their service, and their price points.

-Develop a thorough understanding of state-of-the-art, for how Trust is handled and implemented on an agent in a distributed network of agents. Contrast and compare, then categorize the research findings into separate industries such as Enterprise and IoT. Review and discuss the impact of 5G networks on Trust.

-Create an ontology or data matrix of trust solution providers and include data attributes/features/functionality for each industry and identify relations, gaps, and redundancies. (Using PostgreSQL and/or MySQL)

-Develop and perform statistical/data analysis to identify Dynamic Trust as a discriminating novel technology that addresses a need/gap in commercial markets.

-Develop a high-level data model or use case visualization using Python of Dynamic Trust SaaS, for an Agent in a distributed network and demonstrate or describe how it can be applied for each of the sectors (Enterprise, and IoT).

-As part of the project, the generation of a dynamic representation of the background activities must be created. The demonstration needs to showcase: illustration of the connections between agents, data flows, CPU processing, and joining and disjoining of agents anticipated during the actual demonstration.

-Demonstrate foreground activities as part of the plan, the generation of a dynamic representation of the foreground activities will be created, illustrating the typical data flow out of agents. For example, operations of sensors and actuators.

-Develop and present all research findings

-Deliver the comprehensive research visualizations and report

Fall Internship Project 11 AL/ML for Dynamic Trust in MDM

**Introduction:** Revolutionary Integration Group Inc. Enables out of the box AI/ML product integration, adaptive system fusion with emerging systems by leveraging our trusted integration methodology.

**Scope of the Project:** Research and create AI/ML engineering code to support Dynamic Trust AI implementation on an agent for a Mobile Device Management (MDM). The engineering code should include the development of functional validation blended with the Dynamic Trust AI implementation. Define how the data impacts trust followed by the architecture/data flow. This will dictate the steps behind changing trust and the detection of trust. Select a workflow and/or use case to build out into an engineering prototype and demonstrate the Dynamic Trust empowered agent fortified with functional validation in MDM simulation demo in Python.

**Tasks:**

-Research and define a data structure and data flow from multiple MDM agents in a distributed network.

-Research and determine how the data structure, communication, and flow requirements work with a Dynamic Trust empowered agent(s) in an MDM network.

-Identify in this network of devices, four unique AI problem-sets to detect and correct changes in Trust between agents using AI and ML techniques.

-Determine the data required to detect the change in Trust for each problem-set.

-Determine the corrective actions once detection in a change of Trust is detected.

-Develop the AI algorithm to detect and correct the change in Trust.

-Develop the AI algorithm to Validate the Trust once the change is made.

-As part of the project, the generation of a dynamic representation of the activities must be created. The demonstration needs to showcase: illustration of the connections between agents, data flows, CPU processing, and joining and disjoining of agents anticipated during the actual demonstration.

-Demonstrate activities that occur at the agent. Include the generation of a dynamic representation of activities, illustrating the typical data flow between agents. For example, operations of sensors and actuators.

-Develop and present all research findings and engineering code.

-Deliver the comprehensive research visualizations and report

Internship Project 12 Company Operating Plan and AI Business Model

**Introduction:**

Revolutionary Integration Group Inc. Enables out of the box AI/ML product integration, adaptive system fusion with emerging systems by leveraging our trusted integration methodology.

## **Scope of the Project**: Create a business model and sales strategy for the development and roll-out of RIG’s Dynamic Trust™ as a Software as a Service (SaaS) for Enterprise, IoT, and Mobile Device Management (MDM) markets. Develop an operational project plan for development, demonstration, and initial production of Dynamic Trust ™.

**Tasks:**

## Define Model

-Perform market characterization for commercial and federal sectors.

-Determine a price point for each of the markets for Dynamic Trust.

-Understand and define the Competitive landscape of the markets.

-Perform market research on “trust” solutions across market sectors

Deliver a comprehensive Business Model description and plan, in Microsoft Word format. Recommend in the plan any required science, novel innovation, analysis, economic decisions, business operations, and a strategic patents approach.

## **Define Sales Strategy (Model)**

-Sales strategy and approach defined for each market, consider:

- Direct sale

- Channel partner sale

- Alternative sales approach

-Identify Enterprise, IoT, and MDM systems on which Dynamic Trust maybe offered, then define any of the ancillary elements needed. (API, Dashboard, or other).

-Based on the sales model, define a business strategy for initial product release.

Deliver a comprehensive Sales Strategy model description in Microsoft Word format.

## Define Product Operational plan

-Create a project plan to develop an initial product solution for one of the markets above.

-Defining the product from the requirements,

-Show steps to demonstrate market goals,

-Describe what is being demonstrated,

-Develop a full storyboard of the demonstration itself (screens that will be shown to the customer)

Create a project plan for the roll-out of Dynamic Trust, documentation to include a SOW or WBS defining significant tasks for the prototype system development plan to include:

Task start date / Duration to complete each of the tasks.

Milestones and deliverable(s) generated during each task.

## Develop and present findings