WGU C951

Task 3

MACHINE LEARNING PROJECT PROPOSAL

Name

Student ID #

Date

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**A. Project Overview**

This proposal describes … (In a few sentences describe the proposal).

**A.1. Organizational Need**

Describe the problem that needs to be solved. For example, describe what is required, what needs to be reduced or added.

**A.2. Context and Background**

A paragraph describing a background, context, and history.

**A.3. Outside Works Review**

Review at least 3 outside works and briefly discuss the methods used. The resources must be relevant to your project and a proper justification is needed here for each source.

**A.4. Solution Summary**

Describe the solution that aligns with the organizational need.

**A.5. Machine Learning Benefits**

Describe how Machine Learning will improve and provide the benefits and solution.

**B. Machine Learning Project Design**

**B.1. Scope**

Use bullet points to describe in scope and out of scope items. A minimum of 1 out of scope item must be discussed, and 3 in scope items.

**B.2. Goals, Objectives, and Deliverables**

Goals

•

Objectives

•

Deliverables

•

**B.3. Standard Methodology**

Describe what methodology is used and how it will be applied to the proposed project. Please view an example below.

Development will follow the {SEMMA, CRISP-DM, etc} methodology.

• Sample:

• Explore:

• Modify:

• Model:

• Assess:

**B.4. Projected Timeline**

August 1st, 2022 – The proposal for the project is accepted

August 2nd, 2022 – Presentations with demos begin development

August 15th, 2022 – Demos and presentations are presented to customer

August 16th, 2022 – Address any concerns or question from customer before installation

August 22nd, 2022 – Begin installation of camera systems and drones at priority locations

September 6th, 2022 - Installation finish and begin development of the AI system

October 24th, 2022- AI system complete and data samples have been collected, begin mock training with scenario base cases

November 1st, 2022- Confirm accuracy from training scenarios, adjust as needed

November 14th, 2022 – Deploy systems to all locations

Date 1 – The proposal is accepted …

Date 2 – A technical proof of concept is presented.

Date 3 – Submitted for review…

Date 4 – Deliverables

Date 5 – Delivered

**Sprint Schedule**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sprint** | **Start** | **End** | **Tasks** |
| 1 | Date | Date |  |
| 2 | Date | Date |  |
| 3 | Date | Date |  |
| 4 | Date | Date |  |

**B.5. Resources and Costs**

|  |  |  |
| --- | --- | --- |
| **Resource** | **Description** | **Cost** |
|  |  |  |
|  |  |  |
|  |  |  |
|  | **Total** | (Total cost) |

**B.6. Evaluation Criteria**

Describe the criteria used to evaluate and measure the success of the completed project.

|  |  |
| --- | --- |
| **Objective** | **Success Criteria** |
| (Ease of Use) |  |
| (User error rate reduction) |  |
| (Algorithm Efficiency) |  |

**C. Machine Learning Solution Design**

**C.1. Hypothesis**

A hypothesis is a statement, somewhat of a prediction, that you are endeavoring to demonstrate in your proposal. You also need to include the testing that will demonstrate, or prove, your hypothesis.

**C.2. Selected Algorithm**

Describe algorithm used.

**C.2.a Algorithm Justification**

Cite sources and reason for algorithm selection.

**C.2.a.i. Algorithm Advantage**

Describe the degree of confidence.

**C.2.a.ii. Algorithm Limitation**

Describe the limitation.

**C.3. Tools and Environment**

For example: Describe the operating systems used, the API, libraries and programming language used, and identify any third-party code used.

**C.4. Performance Measurement**

Describe how quality and performance will be measured.

**D. Description of Data Sets**

**D.1. Data Source**

Describe where the data source will be extracted from.

**D.2. Data Collection Method**

Describe how the data collection functions.

**D.2.a.i. Data Collection Method Advantage**

Describe the positive outcomes of the data collection method.

**D.2.a.ii. Data Collection Method Limitation**

Describe the limitations.

**D.3. Quality and Completeness of Data**

Explain how the data will be prepared for the algorithms from part C2.

**D.4. Precautions for Sensitive Data**

Describe behaviors when working with communicating about sensitive data.

**References**

List a minimum of 3 sources (the ones used in section A3) along with any other sources used. You can use any formatting method you’d like (APA, MLA, etc).

<https://www.cbp.gov/frontline/cbp-artificial-intelligence>

<https://www.elbitamerica.com/news/elbit-america-develops-ai-based-solutions-for-border-and-other-security-applications>

<https://www.borderreport.com/hot-topics/immigration/border-patrol-adds-artificial-intelligence-cameras-to-security-arsenal/>

<https://blog.paperspace.com/faster-r-cnn-explained-object-detection/>