**Computer Science Capstone Topic Approval Form**

The purpose of this document is to help you clearly explain your capstone topic, project scope, and timeline. Identify each of these areas so that you will have a complete and realistic overview of your project. Your instructor cannot sign off on your project topic without this information*.*

*Note: You must fill out and submit this form. Space beneath each number will expand as needed.*

*Note: Any costs associated with developing the application will be the responsibility of the student.*

**INFORM INSTRUCTOR:**

Potential use of proprietary company information: (Y/N) **N**

**ANALYSIS:**

1. Project topic and description:
2. Project purpose and goals:
3. Descriptive method:

A nondescriptive method will be used to draw correlations b

1. Predictive or prescriptive method:

**DESIGN and DEVELOPMENT:**

1. Computer science application type (select one):

* Mobile (indicate Apple or Android)
* **Web**
* Stand-alone

1. Programming/development language(s) you will use:

**Rust**

1. Operating system(s) or platform(s) you will use:

**Windows + Linux**

1. Database Management System you will use:

**N/A; Data is accessible via CSVs**

1. Estimated number of hours for the following:
   * 1. Planning and design: **5 hours**
     2. Development: **40-60 hours**
     3. Documentation: **10-15 hours**
     4. Total: **55-80 hours**
2. Projected completion date: **11/05/2024**

**IMPLEMENTATION and EVALUATION:**

1. Describe how you will approach the execution of your project.

First, I chose Rust over Python for this for several reasons; the most notable of those is just to keep my interest up. The open-source community already has produced many production-ready packages (crates) in the Rust ecosystem that outperform or maintain parity with most common Python data science packages, making this choice substantially less difficult than it would be using another language or framework.

As of the writing of this document, I have completed most of the planning and design, already. Rust’s **Linfa** crate will be used in place of Python’s SciKit learn – it provides many of the most common ML algorithms out of the box & can be used to train machine learning models. To stand in for Python’s pandas and matplotlib, the **Polars** and **Plotly** crates have been used instead, with the **Plotlars** crate acting as an adapter for better interop between Polars and Plotly.

I have hosted my project on GitHub so that I may maintain version control over time. This also provides me a way to share my work when it is finished and provides me an easier way to automate the build, test, and deployment of my code when and if I need to.

**This project does not involve human subjects research and is exempt from WGU IRB review.**

**STUDENT’S SIGNATURE**

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By signing and submitting this form, you acknowledge that any costs associated with the development and execution of the application will be your (the student's) responsibility.

**INSTRUCTOR’S SIGNATURE:**

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**INSTRUCTOR APPROVAL DATE:**