**PROJECT CHARTER:**

PROJECT NAME:

Machine Learning to predict student success and identify potential at risk students.

GROUP MEMBERS:

1. Oyewole Elisha
2. Fhuad Balogun

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# THE TEAM

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|  | **NAME** | **SKILL SET/EXPERTISE** | **LOCATION** | **CONTACT INFORMATION** |
| **1** | Oyewole Elisha | Descriptive and inferential statistics, database management systems, data visualization and storytelling, data mining and modelling. | Ojuelegba, Lagos | 08165563903  elisha.oyewole@datawrangling.io |
| **2** | Fhuad Balogun | Descriptive and inferential statistics, database management systems, data visualization and storytelling, data mining and modelling. | Surulere, Lagos | 08137799260  fhuad.balogun@datawrangling.io |

# PROJECT TOPIC

Machine Learning to predict student success and identify potentially at-risk students.

# THE CONCEPT

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| The goal is in utilizing early engagement and machine learning to predict student outcomes. Machine learning can be used to analyze student grades to predict the success of students with at least 4 weeks of grades into an academic session. This is done by analyzing grades and student attendance. |

# GOALS & OBJECTIVES

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| 1 | Utilizing machine learning techniques to identify potential failing students at week 4 of the first semester. |
| 2 | Contribute to increasing student retention and graduation rate. |
| 3 | Improve Performance of Student. |

# STRATEGY & TACTICS

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| **1** | **PHASE 1: BUSINESS AND DATA UNDERSTANDING**   1. Business Understanding    * Research and build business objectives for the project that has economic benefits.    * Research similar past projects and solutions related to this project.    * Research best platform for deployment. 2. Data Understanding    * Research on the best type of data (relevant features etc) for the project.    * Find quality data for the project.    * Do we need and can we acquire more data?   **1st Milestone**: Report the entire phase 1 process and transition to phase 2. |
| **2** | **PHASE 2: DATA PREPARATION AND EXPLORATORY DATA ANALYSIS**   1. Data preparation    * Data preprocessing and preparation. 2. Exploratory Data analysis    * Statistical analysis.    * Data visualization.   **2nd Milestone:** Report process and transition to phase 3. |
| **3** | **PHASE 3: MODELING AND EVALUATION**   1. Modeling    * Experiment on different preprocessing combinations.    * Spot check different algorithms.    * Analyze and pick the best suited algorithm(s). 2. Evaluation    * Evaluate and tune hyperparameters for the best results.   **3rd Milestone:** Report process and transition to phase 4 |
| **4** | **PHASE 4: SHIP FOR DEPLOYMENT AND PROJECT REPORT**   1. Ship for deployment    * Package model pipeline for deployment. 2. Project report    * Report project results and potential improvements.   **4th Milestone:** Present project report and finalization. |

# POTENTIAL RISKS & CHALLENGES

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|  | **POTENTIAL RISK / CHALLENGE** | **PROPOSED PLAN TO MITIGATE RISK** |
| **1** | Data collection. | Contact different schools for data relevant to the project.  Create questionnaires for data collection.  Potentially enrich existing data with foreign institution data from third party sources. |
| **2** | Business and data understanding. | We have requested for a full copy of the article written about a similar project worked on for a different country (the United States). |

# PROJECT TIMELINE

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|  | **ACTION ITEM** | **DUE DATE** |
| **1** | Submit charter. | 20/10/2020 |
| **2** | Progress report presentation on phase 1. | Daily standups and weekly sprints. |
| **3** | **1st Milestone**: Report on phase 1 and transition to phase 2. | 13/11/2020 |
| **4** | Phase 2 commences | 16/11/2020 |
| **5** | Progress report presentation on phase 2 | Daily standups and weekly sprints. |
| **6** | **2nd Milestone:** Report on phase 2 and transition to phase 3. | 20/11/2020 |
| **7** | Phase 3 commences | 23/11/2020 |
| **8** | Progress report presentation on phase 3 | Daily standups and weekly sprints. |
| **9** | **3rd Milestone:** Report on phase 3 and transition to phase 4. | 27/11/2020 |
| **10** | Phase 4 commences with report finalization and presentation slides | 30/11/2020 |
| **11** | Progress report presentation on phase 4 | Daily standups and weekly sprints. |
| **12** | Final Presentation and report | 04/12/2020 |

# CODE OF CONDUCT

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| **MISSION STATEMENT** |
| To build an efficient model with the highest possible accuracy and speed performances. |
| **PROJECT AND TASK MANAGEMENT** |
| **PROJECT MANAGEMENT**  **Project Control (Oyewole Elisha)**   * Reviewing and tracking the project milestones and deliverables. * Ensure prompt submission of deliverables   **Quality Control (Fhuad Balogun)**   * Final review of deliverables before submission * Ensure follow up with discussions with project advisor.   **DELIVERABLES**  **Oyewole Elisha**  **Fhuad Balogun** |
| **WORK POLICIES** |
| **Responses:** Deliverables must be shared with the team every night prior to meeting with project advisor for standups. However, members shall not wait till the meeting time to share views and comment on the subject.  **Submissions:** Deliverables should be submitted before deadline. |
| **COMMUNICATION PROTOCOL**  **Meetings:** Team’s virtual meeting will majorly be on WhatsApp, as well as other platforms (Teams, Zoom and Slack) as need arises. Daily standups with advisor will be communicated to the team.  **Document Sharing:** All documents will be shared on the team’s channel on Teams and SharePoint. Members should regularly check on the channel and keep notifications on for quick update. |