

# CS 180

## Filipino Student Employability Predictor using Multilayer Perceptrons

### Team #14

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# Presentation Agenda

- 1 Introduction
- 2 Materials and methods
- 3 Results
- 4 Discussion, Q&A



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# Project Introduction

- We tackle the project introduction into four (4) parts:
  - Background
  - Motivation and Importance
  - Objectives and Goals
  - Scope



# Background

- In recent years, artificial intelligence and machine learning have demonstrated their transformative potential in addressing complex problems, optimizing processes, and uncovering valuable insights from vast amounts of data.
- Organizations across sectors, ranging from healthcare and finance to transportation and manufacturing, have recognized the immense benefits of leveraging artificial intelligence and machine learning technologies.



# Background

- As graduation approaches, many fresh graduates worry about finding a job quickly. This can create immense pressure for them (Springboard Philippines, 2021). They may even experience anxiety due to the looming transition from studying at a university to becoming part of the workforce (Vallesteros et al., 2020).
- As the transition can be seen as a daunting shift in environment, the students may feel concerned and worried, as they often lack insights and the adaptability that the employers are looking for.



# Motivation and Importance

- *As graduation approaches, many fresh graduates worry about finding a job quickly. This can create immense pressure for them (Springboard Philippines, 2021). They may even experience anxiety due to the looming transition from studying at a university to becoming part of the workforce (Vallesteros et al., 2020).*
- *As the transition can be seen as a daunting shift in environment, the students may feel concerned and worried, as they often lack insights and the adaptability that the employers are looking for.*
- We see this as an opportunity to utilize the power of machine learning in order to reduce the anxiety imposed by this looming transition.



# Motivation and Importance

- Our project aims to capitalize on the power of machine learning to tackle the specific challenges posed by the Filipino students worries on employability.
- With this, the students may be guided on what areas they need to work on in order to improve their chances of landing a job.





# Objectives and Goals

- The group aims to develop and train the multilayer perceptron algorithm in order to achieve the following goals:
  - Uncover meaningful patterns and insights with regards to students' employability.
  - Predict student employability based on the given traits a student has.
  - Develop a user-friendly web application that intuitively applies the algorithm into general use.



# Objectives and Goals

- To accomplish the project goals stated above, the group has to satisfy the project's key objectives as follows:
  - Preprocess the acquired “Students’ Employability Dataset - Philippines” dataset for the model to use.
  - Train the Multilayer Perceptron model and rigorously evaluate their performance and generalization capabilities.
  - Apply the trained models for predictive analytics, enabling sufficiently accurate predictions, and actionable recommendations.
  - Deploy a web application that future employees can use to identify whether they can be employed based on the following features defined in the model.



# Scope

- This project seeks to predict whether a Filipino student is employable based on their assessed traits.
- This means that the algorithm “judges” whether the student is employable or less employable (i.e., prone to rejections in job applications) given the student’s traits.
- However, this does not mean the algorithm serves as the hiring manager that outrightly accepts or rejects that student on the spot.



# Scope

- In this case, the project only aims to assess the student's traits and reveals the weak points that the student has so that the student has a chance to improve on it after evaluation.
- Hence, it is still upon the student's overall performance in the job application process whether or not that student gets accepted in the applied job position, which is out of the project's scope.



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Thank you!

