# Project Proposal

## Student Mental Health Survey

#### **Project Title:**

Identifying Key Stressors Affecting University Students' Mental Health

#### **Purpose and Outcome:**

* **Purpose:** Focusing on these key stressors and using a combination of quantitative and qualitative methods, to gain a comprehensive understanding of the factors affecting university students' mental health.
* **Outcome:** A model that can predict customer churn with high accuracy, along with actionable insights to reduce churn rates.

#### **Dataset:**

* **Source:** Public dataset from Kaggle (Student Mental Health Survey: <https://www.kaggle.com/datasets/abdullahashfaqvirk/student-mental-health-survey/data> )
* **Description:** The dataset contains contains detailed information on the mental health and well-being of students, covering various aspects of their academic and personal lives. The dataset provides a comprehensive view of the factors that may influence student mental health:
  + Demographic details such as gender, age, and university.
  + Academic details like degree level, major, academic year, and current CGPA.
  + Student's residential status and experiences with discrimination, harassment, or bullying on campus.
  + Student's lifestyle factors include frequency of sports engagement and average sleep hours per night.
  + Student's satisfaction with their field of study and their perception of academic workload.
  + Addressing the academic pressure, financial concerns, and the quality of social relationships on campus.
  + Frequency of experiencing depression, anxiety, feelings of isolation, and insecurity about the future.
  + Activities that students engage in to relieve stress.
* **Structure:**
  + **gender :** Gender of the student (Male/Female)
  + **age :** Age of the student
  + **university :** Name of University
  + **degree\_level :** Current Degree Level (e.g., Undergraduate, PhD)
  + **degree\_major** : Major of Degree (e.g., Data Science, Computer Science)
  + **academic\_year** : The current academic year of the student
  + **cgpa** : The cumulative grade point average of the student
  + **residential\_status** : Residential Status (e.g., On-campus, Off-campus)
  + **campus\_discrimination**: Experience of Discrimination on Campus
  + **sports\_engagement** : Engagement in Sports Activities
  + **average\_sleep** : The average number of hours the student sleeps per night
  + **study\_satisfaction** : The student's satisfaction with their study environment, rated on a scale from 1 to 5, with 1 is "Very dissatisfied" and 5 is "Very satisfied"
  + **academic\_workload** : The student's perception of their academic workload, rated on a scale from 1 to 5, with 1 is "Low workload" and 5 is "High workload"
  + **academic\_pressure** : The student's perception of academic pressure, rated on a scale from 1 to 5, with 1 is "Low pressure" and 5 is "High pressure"
  + **financial\_concerns** : The level of financial concerns experienced by the student, rated on a scale from 1 to 5, with 1 is "Less concern" and 5 is "High concern"
  + **social\_relationships** : The quality of the student's social relationships, rated on a scale from 1 to 5, with 1 is "Low quality" and 5 is "High quality"
  + **depression** : The level of depression experienced by the student, rated on a scale from 1 to 5, with 1 is "Low depression" and 5 is "High depression"
  + **anxiety** : The level of anxiety experienced by the student, rated on a scale from 1 to 5, with 1 is "Low anxiety" and 5 is "High anxiety"
  + **isolation** : The level of isolation felt by the student, rated on a scale from 1 to 5, with 1 is "Very low isolation" and 5 is "Very high isolation"
  + **future\_insecurity** : The level of insecurity about the future experienced by the student, rated on a scale from 1 to 5, with 1 is "Very low insecurity" and 5 is "Very high insecurity"
  + **stress\_relief\_activities**: Engagement in Stress Relief Activities (Yes/No)

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#### **Initial Analysis Plan:**

* **Data Cleaning:** Handle missing values, correct data types, and remove duplicates.
* **EDA:** Generate summary statistics, visualize distributions, and explore relationships between variables.
* **Analysis:** Perform correlation analysis, build and evaluate a logistic regression model, and identify key factors contributing to churn.
* **Visualization:** Create visualizations such as bar charts, histograms, and heatmaps to support the analysis.
* **Data Storytelling:** Present the findings with a narrative explaining the key drivers of churn and recommendations for reducing churn rates.