GROUP #9 - CYBER HARASSMENT DETECTION

Andrew Chung, James Park

Overview + Motivation:

- People use social media and the internet on a day-to-day basis, including a vast majority of children and teenagers
- With the rise of COVID-19 and more people spending time online, cyberbullying has reached an all time high
- **36.5%** of middle and high school students have felt cyberbullied and **87%** have observed cyberbullying
- Effects include **decreased academic performance**, **lack of self-esteem**, and in severe cases, **suicidal thoughts**

Dataset:

- Dataset from Kaggle
  - **Features:** 47000 tweets labelled according to the class of cyberbullying
    - age, ethnicity, gender, religion, other type, not cyberbullying
  - One file divided into two columns: **text_type, cyberbullying_class**

Methodology:

- **Preprocessing**: Standardize the text data: stemming, lemmatization, lowercase, remove punctuation/numbers, etc. This will ultimately lead to tokenizing the data and creating word vectors where needed. Also change the output value to simple binary output 0 for no cyberbullying and 1 for cyberbullying.
- **Models**: Recurrent Neural Networks, KNN, Decision Tree, Transformer Model
- **Hyperparameter Tuning**: Grid Search
- **Evaluation**: Accuracy/AUC-ROC Comparison