* **FIRST 6-8 PAGES**
  + **Abstract**. Briefly state your work and show your most exciting results.
  + **Introduction.** Explain why the problem is interesting/challenging, and briefly introduce your core idea to solve it.
    - Why problem is interesting and challenging:
      * With the rise of COVID-19, more and more educational classes are being done over the internet with tools like Zoom. Oftentimes, students do not show their video during Zoom classes. This fact makes it harder for instructors, especially in large classes, to detect when students are confused with the material.
      * In a 2013 paper [cite], [insert authors here] wanted to study this issue with respect to MOOCs, so they gathered EEG data using a commercially available device on students watching instructional videos; some of the videos were intentionally made to be confusing. After each video, they asked students to rate how confused they were; this data was then normalized into a binary label. With this data in hand, [insert authors here] then used machine learning to try and classify whether a student was confused or not, which they were able to do with moderate success.
    - Dataset is hard to perform binary classification on.
  + **Related work.** List some prior work related to your problem, and point out the relationship between the prior work and your project.
    - Initial dataset paper
    - Additional work on dataset
    - Autoencoder papers
  + **Approach/Method.** Describe your approach to the problem in detail.
    - Autoencoders with different building blocks (CNN, LSTM, Dense)
  + **Experiments and analysis.** Show your experiments with your specific parameter setup, and more importantly, try to analyze your results.
    - Compare SVM, LSTM, CNN, ANN
    - Compare different LSTM (in terms of Accuracy, training time, optimizers, activation function)
    - Compare different CNN (in terms of Accuracy, training time, optimizers, activation function)
  + **Conclusion.** Briefly state your findings based on your experiments.
* **ADDITIONAL PAGES**
  + **Contributions.** List the individual contribution of every team member to the project.
    - Tanmoy
      * Coding
        + Autoencoder coding, especially
      * Running experiments
    - Jesse
      * Writing
      * Helping run experiments
      * Planning experiments
  + **References.** Please cite all the resources properly.

Introduction Outline Drafting

* Emotion detection and classification is interesting.
  + It has multiple applications.
* EEG data has been used for emotion detection and classification.