

# MATH 189Z Final Project

For your final project you will be coming up with a research topic relating to COVID-19 and working to answer that question using data analytics and machine learning techniques. You are welcome to build on techniques and topics you learned in class and in the homework, however you are not limited to those techniques or topics.

## Project Topic Inspiration

- Check out [this](#) Kaggle challenge. There are a series of very open ended questions as well as 'kernels' where people have shared some introductory analysis. If you use these just make sure to be clear which parts of your project you did and if you use one make sure you can extend it in a meaningful way.
- Analyze the SARS-COV-2 genome
- Sentiment analysis on tweets or news articles over time
- Model COVID-19 infections in the U.S. or worldwide; In the U.S. we seem to be [under testing](#) our population, can we get a better idea of how many cases we have?

This list is just meant to help with your brainstorming. You are absolutely not limited to these topics and you are welcome to talk to the grutors or Prof. Gu about any ideas or questions you have.

The project will have 3 stages: Project Proposal, Preliminary Findings, and Final Report

## Project Proposal: Due Friday April 24th

Your project proposal should include the research question that you are planning to answer and a brief outline of methods that you plan to use to answer this question as well as at least 3 sources that are relevant to your topic. These sources could be data that you plan to use, blog posts about a method you want to use, or prior research on your topic.

## Preliminary Findings: Due Friday May 6th

This is a time for you to gather what you have worked on so far and present your preliminary findings in a short document. You will be graded on completion, not the quality of your results at this point. This document can be as detailed as you would like it to be. This is an opportunity to get feedback before your final project is due, so the more detailed you make it the better feedback you will get.

## Final Report: Due May 15th

Your final report should be a 3-4 page paper (we recommend using LaTeX but this is not required) introducing your research question with motivation and prior research, methods, results, and discussion. This report should be added to your GitHub repository along with the code that you have written to complete your project. If the data you used is too large to upload to GitHub let one of the grutors know.