

## Applications of Linear Algebra!

Your third and final group presentation is more involved than the first two. You should consider that they were warm ups for this.

First, this project is longer and broader in scope. Each group will have 30 minutes to present to the class in one of our Week 10 classes. You should seriously consider putting together a presentation with slides to help us follow along. Your write up will also be more involved. It should be typed (although math equations can be written in by hand), and should involve some research on your part. If your topic description comes with some urls, they are simply designed to give you a starting point; they are not meant to be exhaustive nor to define the boundaries of your project.

You are being asked to explore a particular topic beyond the scope of our textbook, and beyond the scope of one or two homework-like problems. You are also being directed here and now to go beyond the notion of how a particular application uses matrices to encode problems. We've seen that in the smaller projects. Instead, are eigenvectors or eigenvalues used???? Maybe subspaces even appear, or diagonalization, or change of basis.

To be clear, I am NOT asking you to write an extensive research paper. I AM asking you to find some linear algebra in the wild. Your write up should include some mathematics AND some non-math by way of explaining how the math appears in the wild. Your paper, typed, should be several pages – roughly 5, although this is very rough as the number of graphs and offset-equations etc will greatly affect that length. Basically, your paper should encode your presentation, with perhaps more of the details than you shared orally. Presentations and papers are different styles of communication; make sure you speak loudly and engagingly in your presentation, make sure your paper is well-written (ie, pay attention to grammar, to explaining what “A” is before you use it etc.)

Your paper (and presentation) should have an introduction and a conclusion. Remember that while your audience members know the same linear algebra you do, they have not done your research. It is incumbent on you to bridge that gap. Finally, since there are several of you working together on this project, you will need to take special care that the work is cohesive. Your use of notation and of voice should be consistent throughout the paper.

No matter which day of Week 10 your group presents, the write up is due in class on Friday of Week 10.