

Fun with Vectors: An Introduction to Linear Algebra

Week 1:

- What are vectors? Why are they important?
- Review basic math prereqs
- Solve Problems

Week 2:

- Adding and subtracting vectors
- Breaking vectors into components
- Doing operations on vectors broken into components
- Vector length
- Inner Product
- Finding Angles

Week 3:

- Linear combinations
- Matrices
- Gaussian Elimination
- Matrix operations: Addition, multiplication, determinant

Week 4:

- Vector Spaces
- Linear independence
- Projections
- Basis

Week 5:

- Null/Column spaces
- Eigenthings

Week 5:

- Generalized inner product
- Polynomial spaces
- Function spaces

Week 6:

- Overflow or new things/problems

Week 7:

- Overflow or new things/problems