

Unless you are interested and decide to work on a subject of your choice, below is a list of suggested projects. **Please choose three of them in the order of preference and email the titles to me**; I will try to accommodate your ordered preferences as much as possible (**on a first come, first served basis**). The project is due on December 4th, 2024.

Project Titles

1. Mathematics on the Computer: Floating Point Number Systems and Arithmetic
Graduate Student:
2. Algorithms and Convergence
Graduate Student:
3. The Bisection Method
Graduate Student:
4. The Method of False Position
Graduate Student:
5. Fixed Point Iteration Schemes
Graduate Student:
6. Newton's Method
Graduate Student:
7. Newton's Method for Nonlinear Systems
Graduate Student:
8. The Secant Method
Graduate Student:
9. Roots of Equations
Graduate Student:
10. Gaussian Elimination
Graduate Student:
11. Jacobi Iterative Method
Graduate Student:
12. Gauss-Seidel Iterative Method
Graduate Student:
13. Google's Search Method
Graduate Student:
14. Gerschgorin's Circle Theorem
Graduate Student:
15. The Power Method for Dominant Eigenvalue
Graduate Student:
16. Polynomial Interpolation Theory
Graduate Student:
17. The Newton Form of the Interpolating Polynomial
Graduate Student:
18. Lagrange Form of the Interpolating Polynomial
Graduate Student:
19. Piecewise Linear Interpolation
Graduate Student:

20. Quadratic Spline

Graduate Student:

21. Cubic Spline Interpolation

Graduate Student:

22. Linear Least-Squares

Graduate Student:

23. Least-Squares Polynomial

Graduate Student:

24. Nonlinear Least-Squares

Graduate Student:

25. MATLAB code for base-to-base number conversion

Graduate Student: