#### MA635P-Scientific Programming Laboratory

Krylov Subspace: Medical Images and GMRES

#### Panchatcharam Mariappan<sup>1</sup>

<sup>1</sup>Associate Professor Department of Mathematics and Statistics IIT Tirupati, Tirupati

April 2025







# Team

### Team

- MA23M002 AJAY KUMAR YOGI
- MA23M007 GURMEET SINGH
- MA23M010 RIYA





# Work

### **GMRES**

- 1. Generate a linear solve package for GMRES using Python
- 2. Use the following reference Reference
- 3. Explore the failure of this method and order of complexity
- 4. What is GMRES(k) method, how is it beneficial from GMRES?
- 5. Refer the following article Reference and explain how does it help in ECGI
- 6. Reconstruction of CT image with GMRES



## Deliverable

- 1. Python notebook (Google colab)
- 2. Report, Latex Presentation and video presentation, each one has to explain 3 minutes about their contribution and how did you develop the code, data etc.



## Thanks

#### **Doubts and Suggestions**

panch.m@iittp.ac.in





### MA635P-Scientific Programming Laboratory

Krylov Subspace: Medical Images and GMRES

Panchatcharam Mariappan<sup>1</sup>

<sup>1</sup>Associate Professor Department of Mathematics and Statistics IIT Tirupati, Tirupati

April 2025



