# PMRF-ISSS Teaching Programme 

 Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems
## Matrix Analysis

Name of the PMRF student

## Arthi S, IISc Bangalore

Required background of the students taught
$4^{\text {th }}$ year UG and PG students from
Electronics and Communication
Engineering, Electrical Engineering and Computer Science

## Online session coordinator

Will be chosen from the list of registrants


Schedule of the module

Start date: Aug 31, 2023
End date: Dec 26, 2023
Lecture duration: 90 minutes

Recorded lectures will be uploaded at 4 pm on Tuesdays and Thursdays.

## Details of the content of the module

1. Review of linear algebra
2. Matrix properties: rank, determinants
3. Norms and properties
4. Eigen values and eigen vectors
5. Similar matrices, and diagonalizability
6. Unitary matrices and properties
7. LU decomposition
8. Cholesky decomposition
9. Hermitian matrices, and properties
10. Singular value decomposition (SVD)
