PMRF-ISSS Teaching Programme

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

Module PMRF-ISSS032/2024

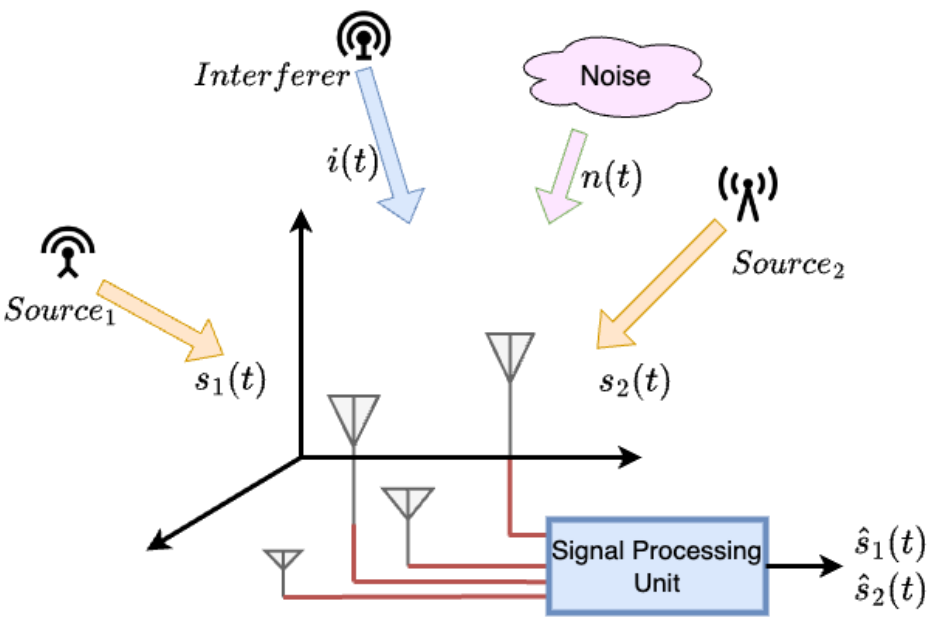
Sensor Array Signal Processing

Name of the PMRF student

Amit Goel

Required background of the students taught

Individuals with basic understanding about principles of signals and systems are welcomed to enroll into the course.



Details of the content of the module

Overview of Probability theory: Probability measure space, Random variables, Bayes theorem, Density functions, Jacobian transformation, Random vectors, Whitening (Eigen value decomposition, Cholesky Decomposition).

Fundamentals of Detection and Estimation theory: Hypothesis testing, Bayesian parameter estimation, MVUE, CRLB, MLE

Spectral Estimation methods: Random processes, Autocorrelation, power spectral density, Periodogram and correlogram, ARMA, Yule-Walker, Least square methods, Non-Least square methods.

Nature of the module: Lectures

(Recorded lectures and live practise sessions)

Schedule of the module

Starts on : September 1 2024

Lecture Schedule : Every Monday and Wednesday, 7 p.m. to 9 p.m. .

Meeting link : Will be shared later

Contact email ID: isss.forum@gmail.com

Registration link:

https://forms.gle/EbqdU1E91hXRybDz6