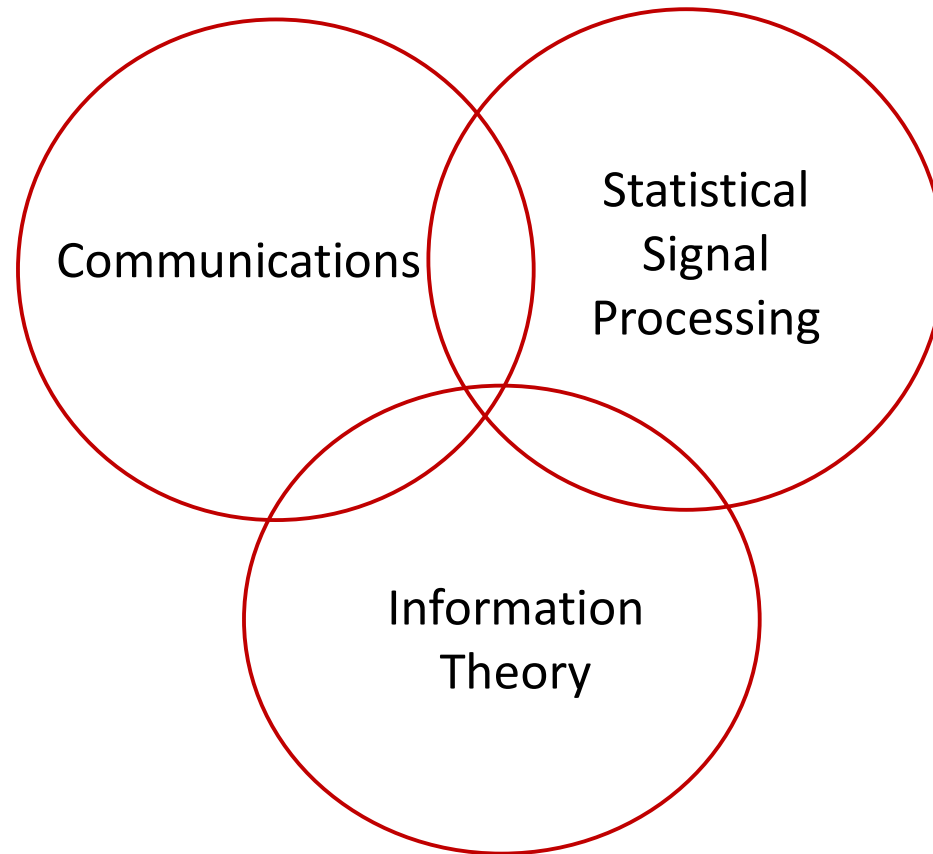


# Research Overview

Srikrishna Bhashyam

July 2021

# Areas of Research



- 5 PhD students, 1 MS student

# Communications

- Model-based learning,  
Deep unfolding
  - Massive random access
  - Sparse recovery
- MIMO
  - Robust hybrid beamforming
  - Optical communication

# Statistical Signal Processing: Detection, Estimation and Learning

- Hypothesis testing
  - Sequential hypothesis testing
    - Anomaly detection
    - Clustering
  - Active sequential hypothesis testing
    - Outlying sequence detection
    - Best arm identification
    - Multi-arm bandits
  - Change detection

# Selected Recent Publications

- S. S. Nair and S. Bhashyam, "[Hybrid beamforming in MU-MIMO using partial interfering beam feedback](#)," in IEEE Communications Letters, vol. 24, no. 7, pp. 1548-1552, July 2020.
- A. P. Sabulal, S. Bhashyam, "[Joint Sparse Recovery using Deep Unfolding With Application to Massive Random Access](#)," ICASSP 2020 - 2020 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Barcelona, Spain, 2020, pp. 5050-5054.
- G. R. Prabhu, S. Bhashyam, A. Gopalan, R. Sundaresan, "[Learning to Detect an Anomalous Target with Observations from an Exponential Family](#)," 2019 IEEE Data Science Workshop (DSW), Minneapolis, MN, USA, 2019, pp. 88-92.
- Aditya Deshmukh, Venugopal V. Veeravalli & Srikrishna Bhashyam (2021) "[Sequential controlled sensing for composite multihypothesis testing](#)," Sequential Analysis, DOI: 10.1080/07474946.2021.1912525
- S. C. Sreenivasan and S. Bhashyam, "[Sequential Nonparametric Detection of Anomalous Data Streams](#)," in IEEE Signal Processing Letters, vol. 28, pp. 932-936, 2021.

<https://www.ee.iitm.ac.in/~skrishna/>