

Dear All,

We are happy to invite you to join for a **Technical Talk** on **19th February 2024, Monday, at 04:00 PM**.

Details of the talk

Title: "Distributed Decision Making: Optimality and Information Mixing Under Network and Operational Constraints".

Speaker: Vivek Khatana, Ph. D candidate, Department of Electrical Engineering, University of Minnesota.

Venue: Committee Room, EED.

Abstract: In this talk, I will talk about one of my research works on distributed decision-making. I will discuss a new algorithm that controls the interactions of the information mixing with optimality in networked optimization problems. The algorithms admit a communication topology that is directed and can be synthesized distributively. The algorithm addresses a multi-agent distributed optimization problem with a common decision variable, local linear equality and inequality constraints, and set constraints with convergence rate guarantees. Here the information-making step is continually adapted to ensure optimality. The algorithm accrues all the benefits of the Alternating Direction Method of Multipliers (ADMM) approach. Applications from power systems for the developed algorithm will motivate the theoretical framework. Further, I will briefly highlight my other research thrusts in developing novel distributed decision-making algorithms under practical constraints.

Brief bio: Vivek Khatana is a Ph.D. candidate at the Department of Electrical Engineering at the University of Minnesota, Twin Cities. He received his Bachelor's degree in Electrical Engineering from the Indian Institute of Technology, Roorkee, in 2018. His research interests include distributed optimization, distributed and stochastic control, networks of dynamical systems, data-driven system identification, and control of power systems. Vivek is an active member of IEEE Control Systems and Power and Energy Society.

Mukesh K Pathak

Head
Department of Electrical Engineering
Indian Institute of Technology Roorkee
INDIA

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