Vectorized Hankel Lift: A Convex Approach for Blind Super-Resolution of Point Sources

Speaker: Sihan Mao (Fudan University)

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Abstract: In this talk, we consider blind super-resolution of point sources. As can be seen, this problem can be reformulated as a matrix recovery problem. By exploiting the low rank structure of the vectorized Hankel matrix associated with the target matrix, a convex approach called Vectorized Hankel Lift is proposed to exactly recover the target matrix with nearly optimal sampling complexity. Additionally, a new variant of the MUSIC method for line spectrum estimation arising from the framework for solving blind super-resolution may be of independent interest.