

*A brief summary:*

With IFDS support, we studied the hypergraph matching problem. Hypergraph matching aims to recover the node correspondence between two unlabeled hypergraphs with correlated random hyperedge weights. In our work, we represent the hypergraphs as higher-order tensors (i.e., multiway arrays) whose entries collect the weights. We show the equivalence between the maximum likelihood estimator (MLE) and the solution to the intractable multiway assignment problem, and we provide the MLE phase transition with a varying correlation level. Further, we propose a computationally efficient tensor-based matching algorithm with an asymptotic guarantee to achieve exact recovery. A seeded matching strategy is also adapted to boost the algorithm performance.

*Participation of IFDS events:*

Gave an IFDS RA talk on April 18; attended IFDS weekly meetings

*Graduation year:*

2025