Learning and combining image neighborhoods using random forests for neonatal brain disease classification

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Highlights

- A method to learn and combine pairwise image similarities obtained from heterogeneous sources of information for manifold learning is proposed.
- Image neighborhoods are learned through random forests based on multiple user-defined distances and combined optimally in a manifold learning step.
- The performance of the method is shown in neonatal magnetic resonance images of three different diagnostic groups (term controls, patients affected by intrauterine growth restriction and mild isolated ventriculomegaly).
- Results demonstrated that the combination of heterogeneous similarity definitions improves the overall characterization of clinical groups.