

Automatic analysis of brain MRI

Preterm birth is often associated with impaired neurodevelopment. Quantitative evaluation of MR brain images may indicate the state and expected progression of neurodevelopment in preterm born infants and therefore aid in the decision of future interventions. Automatic segmentation of different tissue types in the brain (such as white matter and grey matter) is a common approach for obtaining such MRI measurements. Especially deep learning (and in particular convolutional neural networks) has become very powerful methodology for the automatic analysis of medical images in the recent years.

Projects may include:

- Applying, evaluating, developing or improving segmentation methods for foetal, neonatal or adult brain MRI.
- Computation of quantitative morphological descriptors which may indicate the state of brain development, such as measures of cortical folding or cortical thickness.

References

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