TP46 - Segmentation of Cerebrovascular Pathologies in Stroke Patients with Spatial and Shape Priors

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Goal: segment and **separate small-vessel disease and stroke lesions** in T2-FLAIR. We model spatial and intensity patterns of different cerebrovascular pathologies and demonstrate an inference algorithm for automatic segmentation.

Cerebrovascular Pathologies

- Important indicators of vascular health
- Small vessel disease, stroke lesions have similar T2-FLAIR profile

Distribution Shape Model

- Capture **clinical intuition** for small vessel disease through PCA model of spatial pattern

Pathology model

- Generative model captures both **spatial patterns** and **intensity properties** of cerebrovascular problems and healthy tissue
- Resulting inference algorithm automatically **segments both pathologies** from healthy tissue