Yuli Wu

Contour Refinement of Leukocyte Segmentations in Scans of Stained Bone Marrow

Active Contour Models - Snakes

Methodology

α : continuity, length, variable

β : curvature, smoothness, set to 0

w_{line} : attracted to lighter regions, set to 1

w_{edge} : attracted to edges, more important than intensity, set to 3

set to 0.2
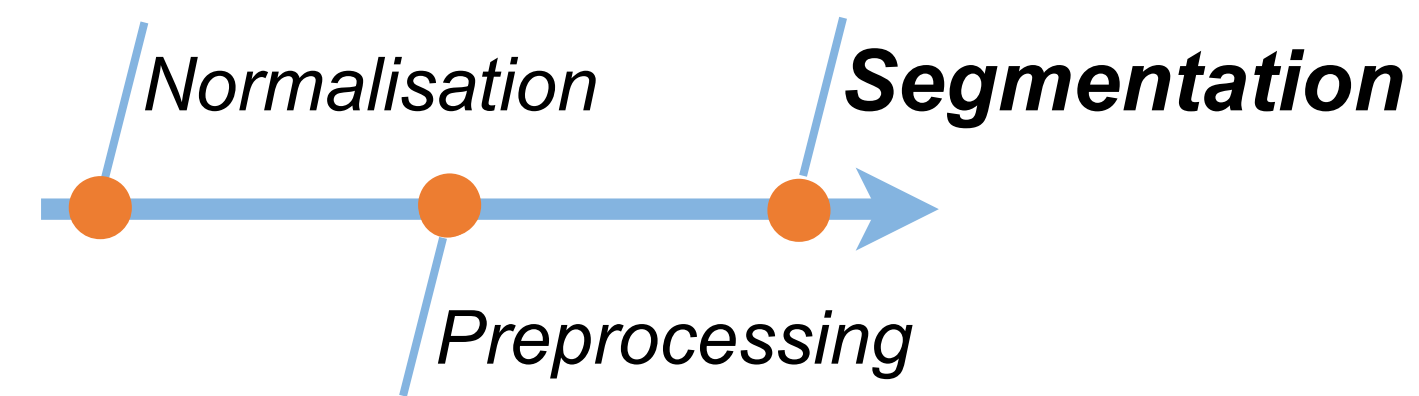
Normalisation

Segmentation

Active Contour Models - Snakes

α : continuity, length, set to 0.2

β : curvature, smoothness, set to 0

w_{line} : attracted to lighter regions, set to 1

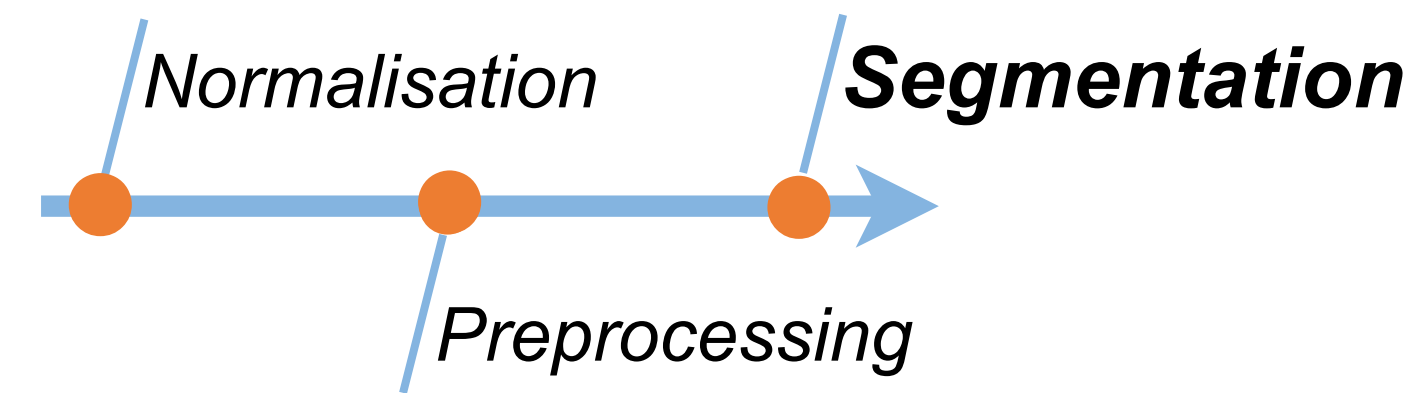w_{edge} : attracted to edges, more important than intensity, set to 3

Yuli Wu
Contour Refinement of Leukocyte Segmentations in Scans of Stained Bone Marrow

Lehrstuhl für Bildverarbeitung

RWTHAACHEN
UNIVERSITY

Active Contour Models - Chan-Vese

- Idea: minimise the *Energy Function*
- Known as **A**ctive **C**ontours **W**ithout **E**dges

$$E_{ACWE}(\overline{I_1}, \overline{I_2}, \mathscr{C}) = \mu \cdot l(\mathscr{C})$$

$$+ \; \lambda_1 \int\limits_{inside(\mathscr{C})} |I(\boldsymbol{x_0}) - \overline{I_1}|^2 \, d\boldsymbol{x}$$

$$+ \; \lambda_2 \int\limits_{outside(\mathscr{C})} |I(\boldsymbol{x_0}) - \overline{I_2}|^2 \, d\boldsymbol{x}$$

μ : edge length

λ_1, λ_2 : difference from average, intensity range

Yuli Wu
Contour Refinement of Leukocyte Segmentations in Scans of Stained Bone Marrow

Lehrstuhl für
Bildverarbeitung

RWTHAACHEN
UNIVERSITY