

A Framework for Quantitative Evaluation of Stain Color Augmentation / Normalization Methods

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Outline

- **Normalization Progress**

Still Training:

- Deep Convolutional Gaussian Mixture Model
- Generative Adversarial Networks

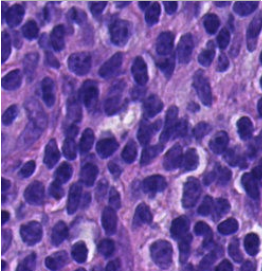
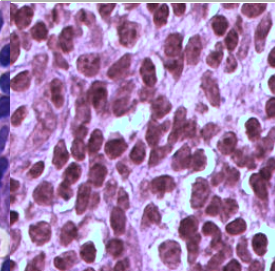
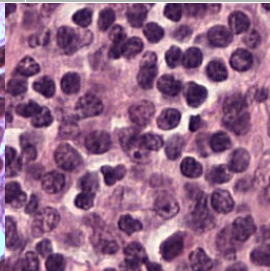
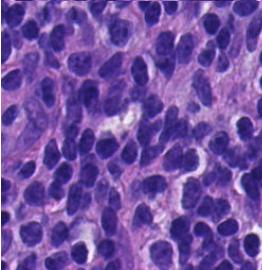
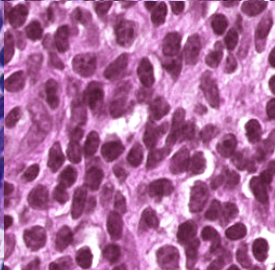
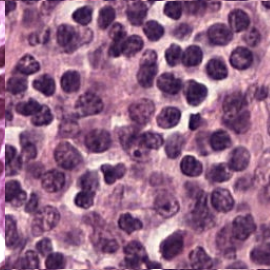
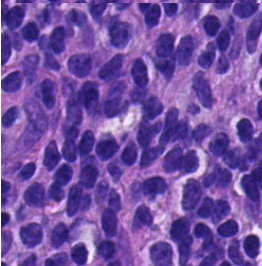
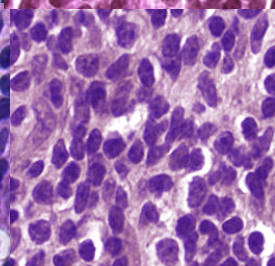
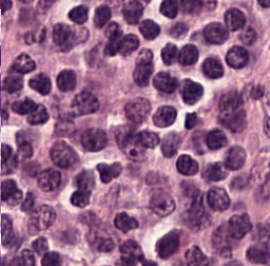
Results

- Macenko
- Reinhard
- Vahadane

Normalization Results

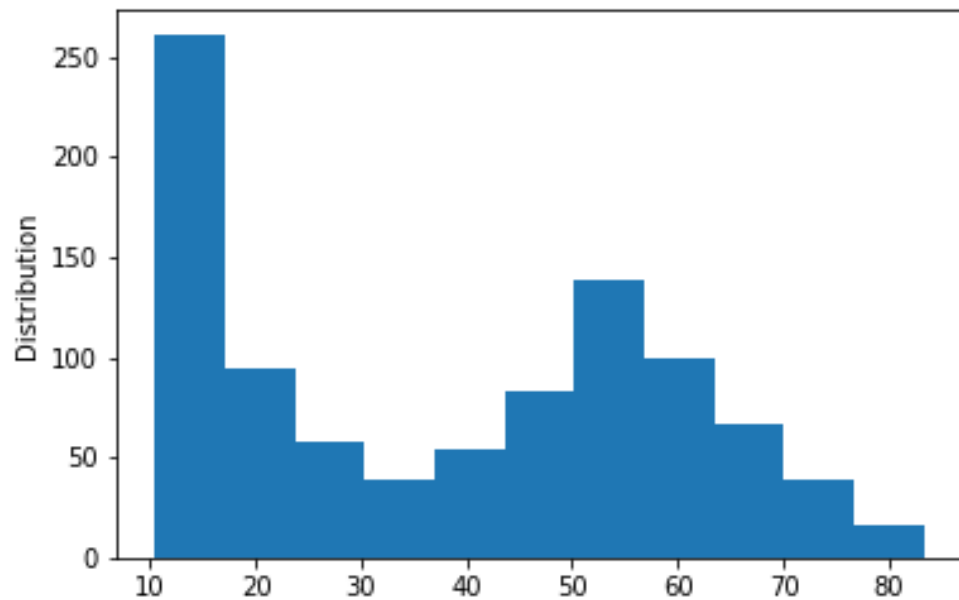
Dataset:

- Train: 949 images
Hamamatsu
- Template: 1 image
3D-Histech

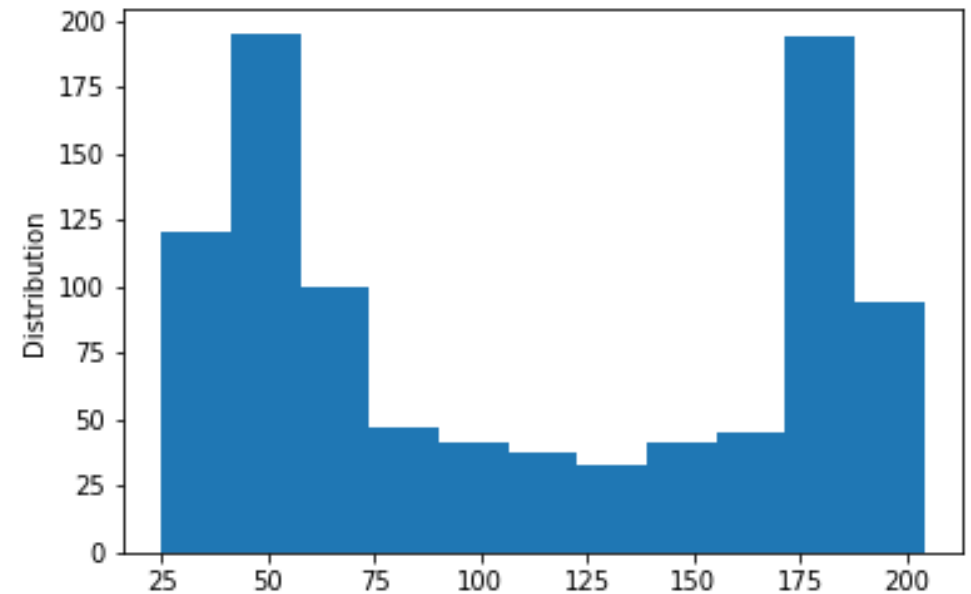
	Original	Normalized	Template	Delta_e
Reinhard				Max:62 Avg: 50.67
Macenko				Max:85 Avg: 41.43
Vahadane				Max:67 Avg:37.95

Macenko-Reinhard

Average

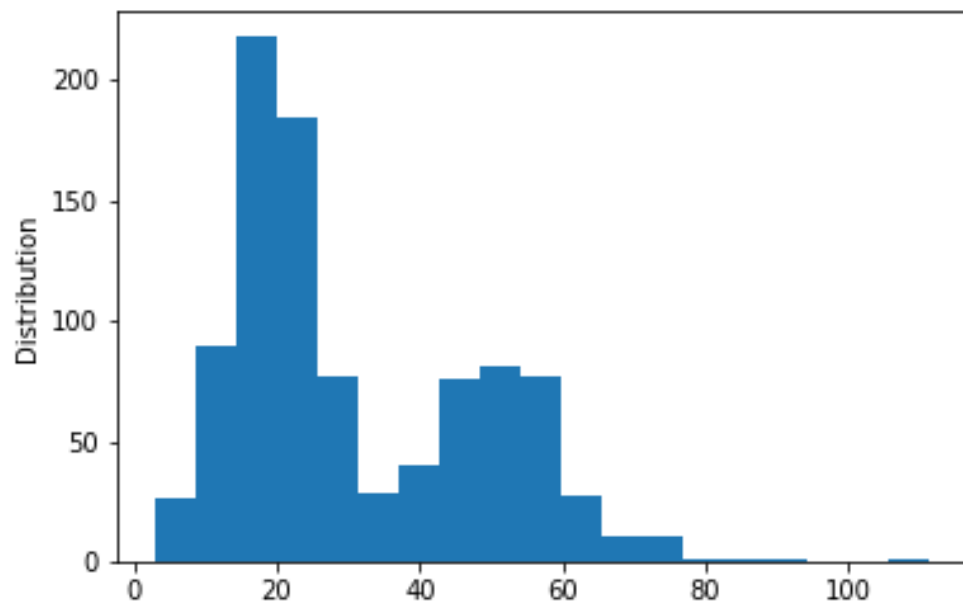


Max

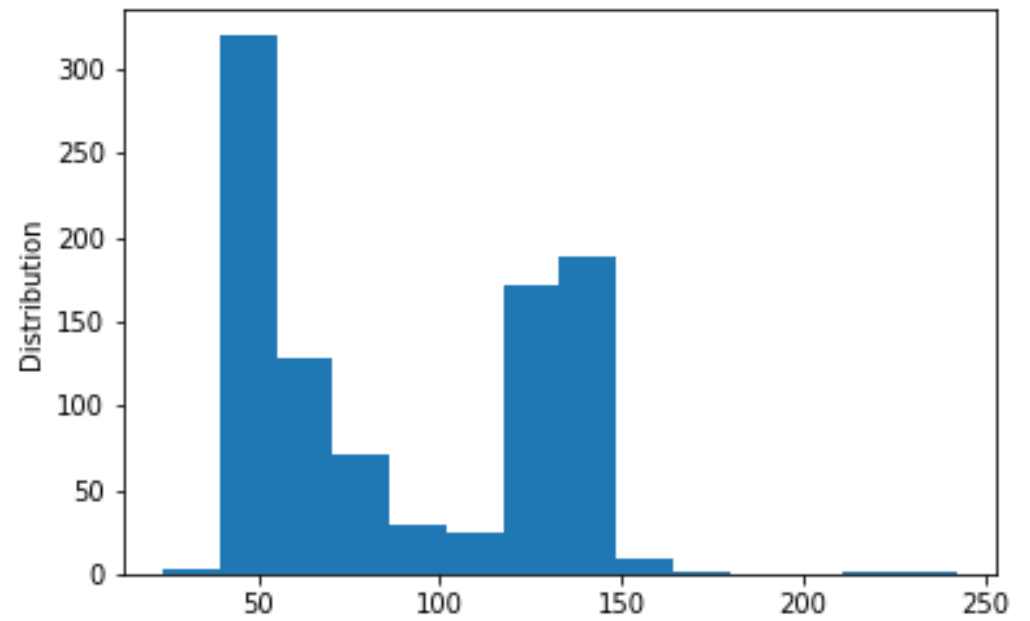


Macenko-Vahadane

Average

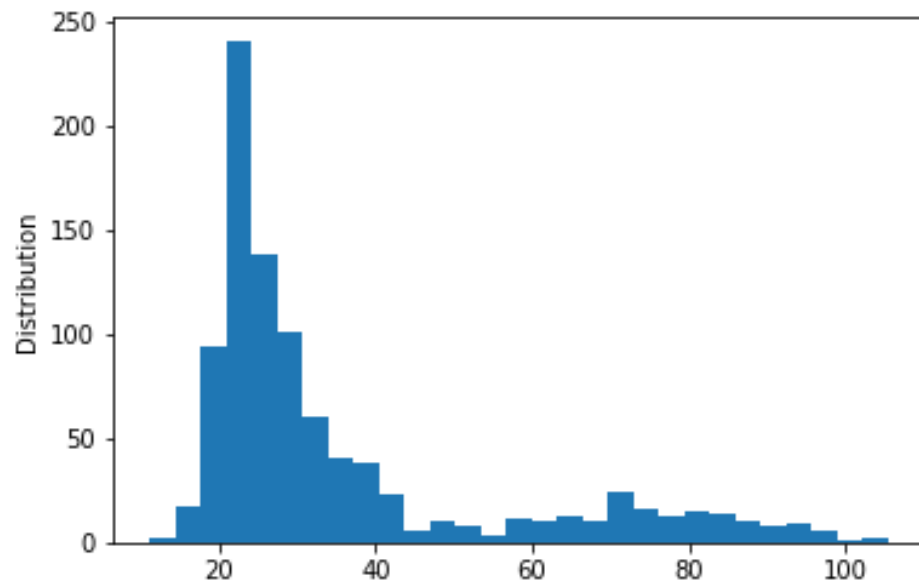


Max



Vahadane-Reinhard

Average



Max

