WATER-INK RENDERING

Patricia (Zhiping) Xiao SID 24965096
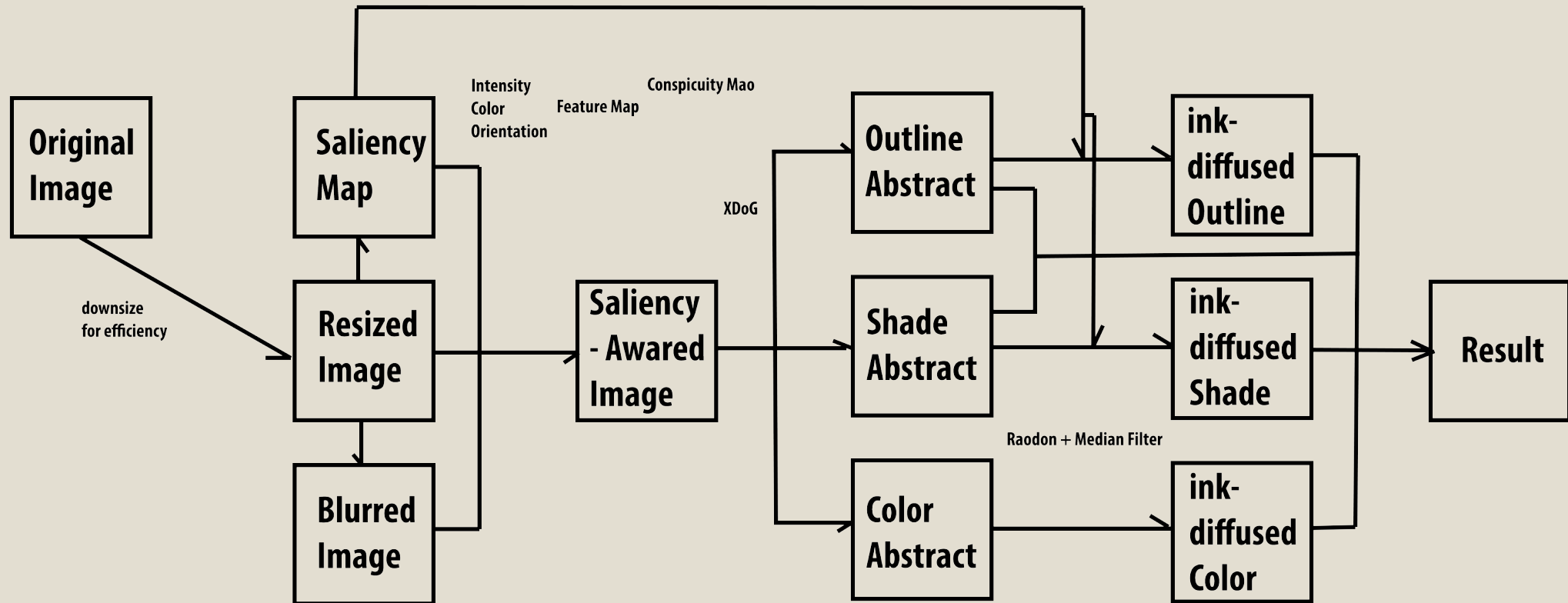
Water-Ink Painting: Overview
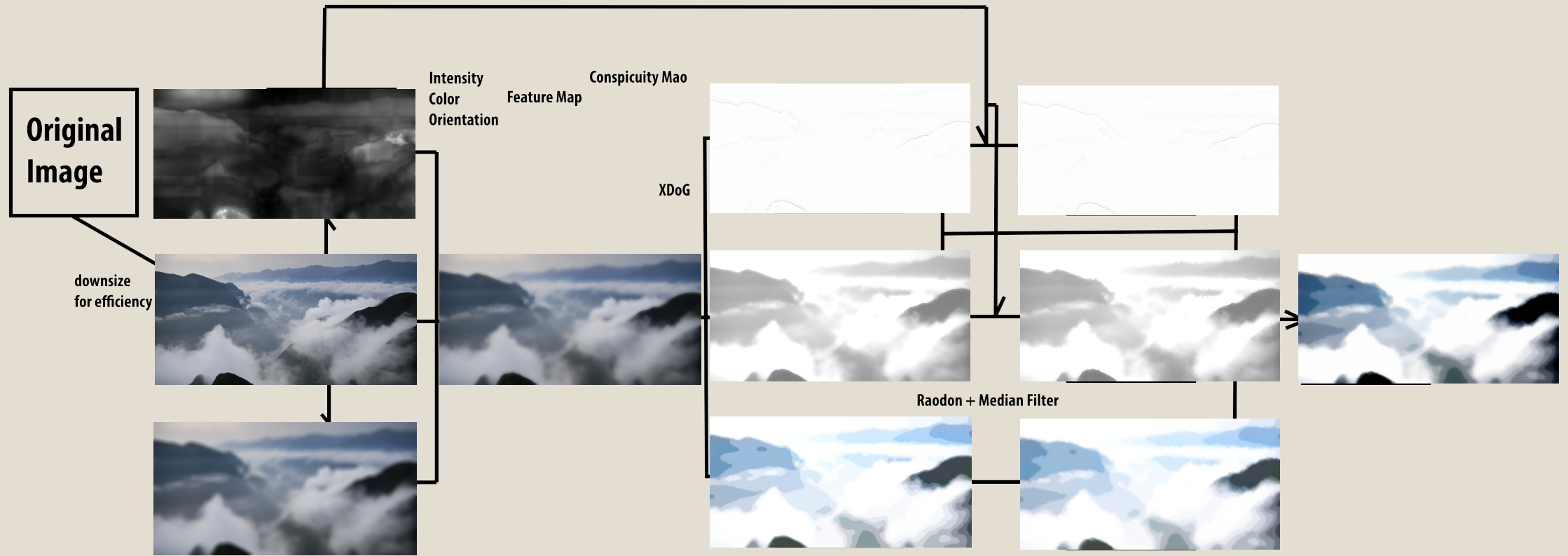
Water-Ink Painting: Category

Pipeline: Design

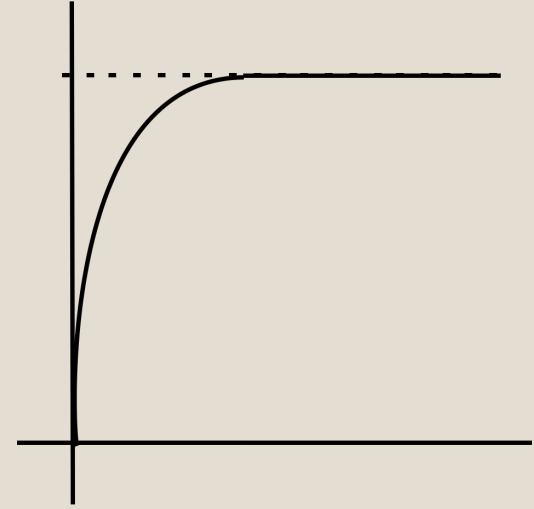# Pipeline: Implementation

Original Image

downsize for efficiency

Intensity
Color
Orientation

Feature Map

Conspicuity Mao

XDoG

Raodon + Median Filter

Detail: Saliency-Aware Image

Detail: Color Mapping

piecewise quadratic function

Detail: Ink-Diffusion (w./ saliency)

Sample Results

Drawback:
Color + Outline

The Next Steps

- Resize Using Seam Carving
- Better Segmentation of the Colors (abstract of the colors)
- Figure out Better Ways to apply saliency map to the image – e.g. The parts of little attention go blank
- Accelerate Ink Diffusion – It is the slowest part for now
- Better Outline Method – try to get smooth and abstract lines
- Improve the Color Mapping Method – e.g. Try to do something in LAB / HSV field rather than RGB, or: with manual input, segment the color areas
- Try to use the Colors of Water-Ink – in water-ink painting most colors are used directly or blend at most 2 or 3, blended with water & ink, not very colorful
- Portrait Improvement – Important
- Water-Ink Unique Brushstroke – based on the rules of water-ink painting
- Add Paper Texture – mixed gradient blending?

References

◦ XDoG: An eXtended difference-of-Gaussians compendium including advanced image stylization (Holger Winnem ¨ ollera, Jan Eric Kyprianidisb, Sven C. Olsen)

◦ Attention - The Saliency-Map Model (https://www.tu-chemnitz.de/informatik/KI/scripts/ws0910/Attention_Saliency.pdf)

◦ Real-Time Image-Based Chinese Ink Painting Rendering (Lixing Dong, Shufang Lu, Xiaogang Jin)

THANK YOU