checkpoint report

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Methods: Conventional v.s ML model

- Conventional Method
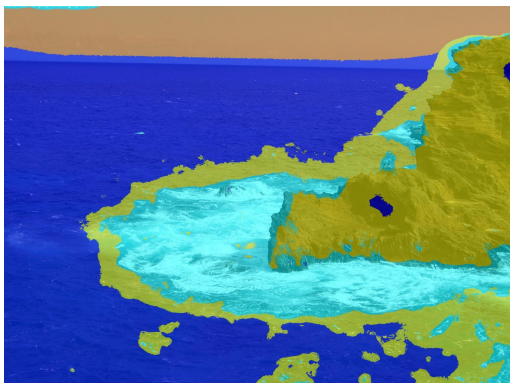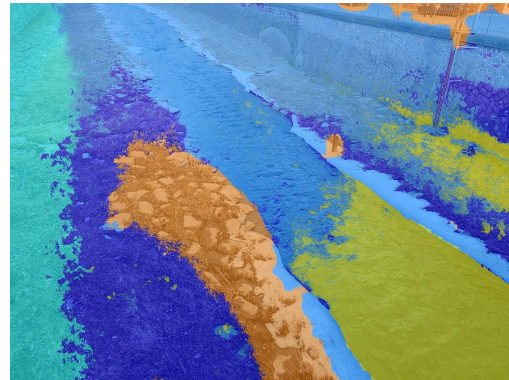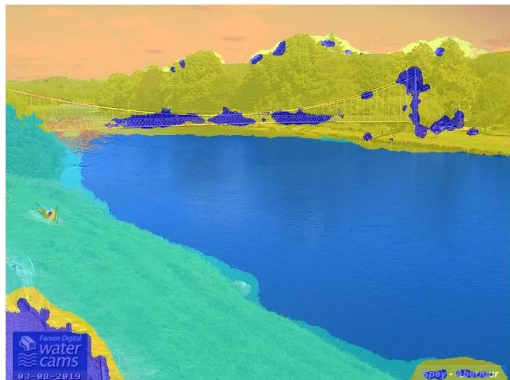
	Pros.	Cons.
Boundary based	Effective for specific shapes	Fail at low gradient boudary
Otsu's Method	Automatic threshold selection	Applicable to bimodal distributions only
Mean-shift algorithm	Non-parametric	High computational complexity
Cluster-based Segmentation	1. Automated grouping 2. Strong adaptability	Requires predefined number of classes

- Machine Learning

    ○ DEEPLABV3

Cluster-based Segmentation

- Features
  - Color
  - Coordinates
  - Texture
- Problems
  - wave
  - sky
  - reflection
  - shadow

DL pretrained models

- Choose models
  - DEEPLABV3
  - UNet with pretrained backbone

- Reason
  - Utilize some pre-trained models for image

- Handling a small number of training samples
  - Data augmentation
  - Bootstrapping