울산대학교 공과대학 IT융합학부
IT융합전공

Introduction to Deep Learning (2)

Fall 2024

School of IT Convergence

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Deep Learning Applications

- Computer Vision
- Voice / Sound / Text
- VR/AR
- Industrial / manufacturing / design
- Commerce
- Finance
- .....

Deep Learning Application Topics (1)

- Self-driving cars
- News aggregation and fraud news detection
- Natural language processing
- Visual assistants
- Entertainment
- Visual Recognition
- Fraud detection
- Healthcare
- Personalization's
- Detecting developmental delay in children

Deep Learning Application Topics (2)

- Colorizations of black and white images
- Adding sounds to silent movies
- Automatic machine translation
- Automatic handwriting generation
- Automatic game playing
- Language translations
- Pixel restoration
- Photo descriptions
- Demographic and election predictions
- Deep dreaming

Deep Learning Application Topics (3)

- Chatbots
- Composing music
- Image coloring
- Robotics
- Image captioning
- Advertising
- Personalized marketing
- Financial fraud detection
- Fake news detection
- Recommendation
- Smart agriculture
- Cybersecurity
- Climate change analysis
- Others

Deep Learning Applications (1)

Deep Learning Applications (2)

Computer Vision Applications

Image-based applications

Object detection/tracking

- A technique for finding and tracking objects and location information of a specified category or class within an image

Image classification

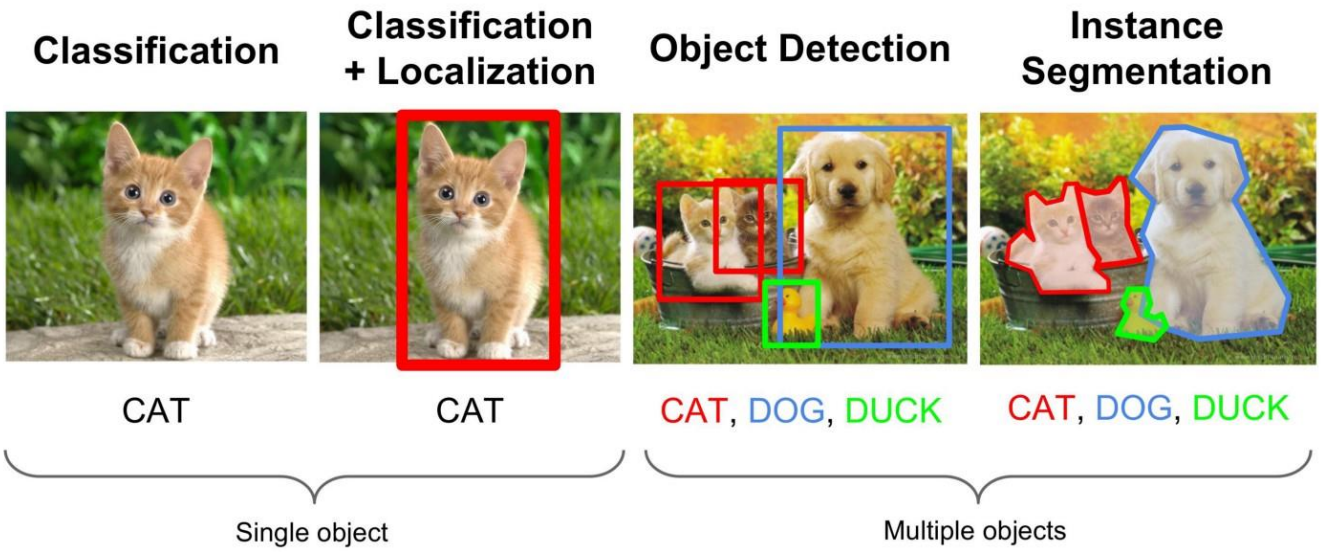
- A technique for classifying an image according to a predetermined class

Semantic object segmentation

- A technique for classifying all pixels of an image into meaningful classes.

Semantic object segmentation (2)

Let's Compare !!



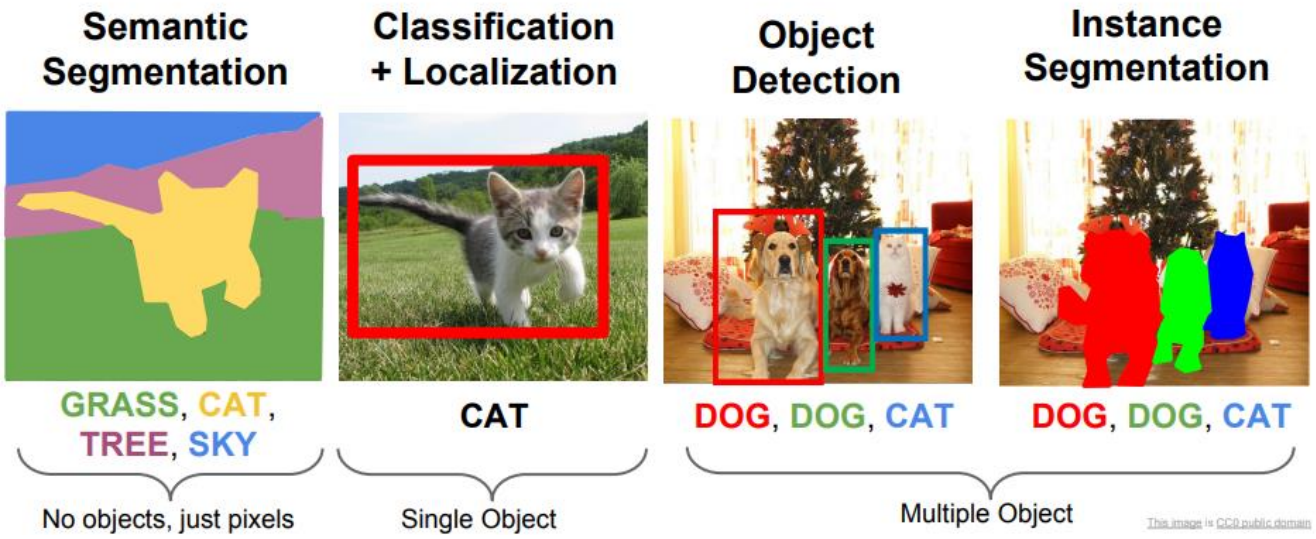


Image generation (1)

- A technique for automatically creating, combining, and transforming images

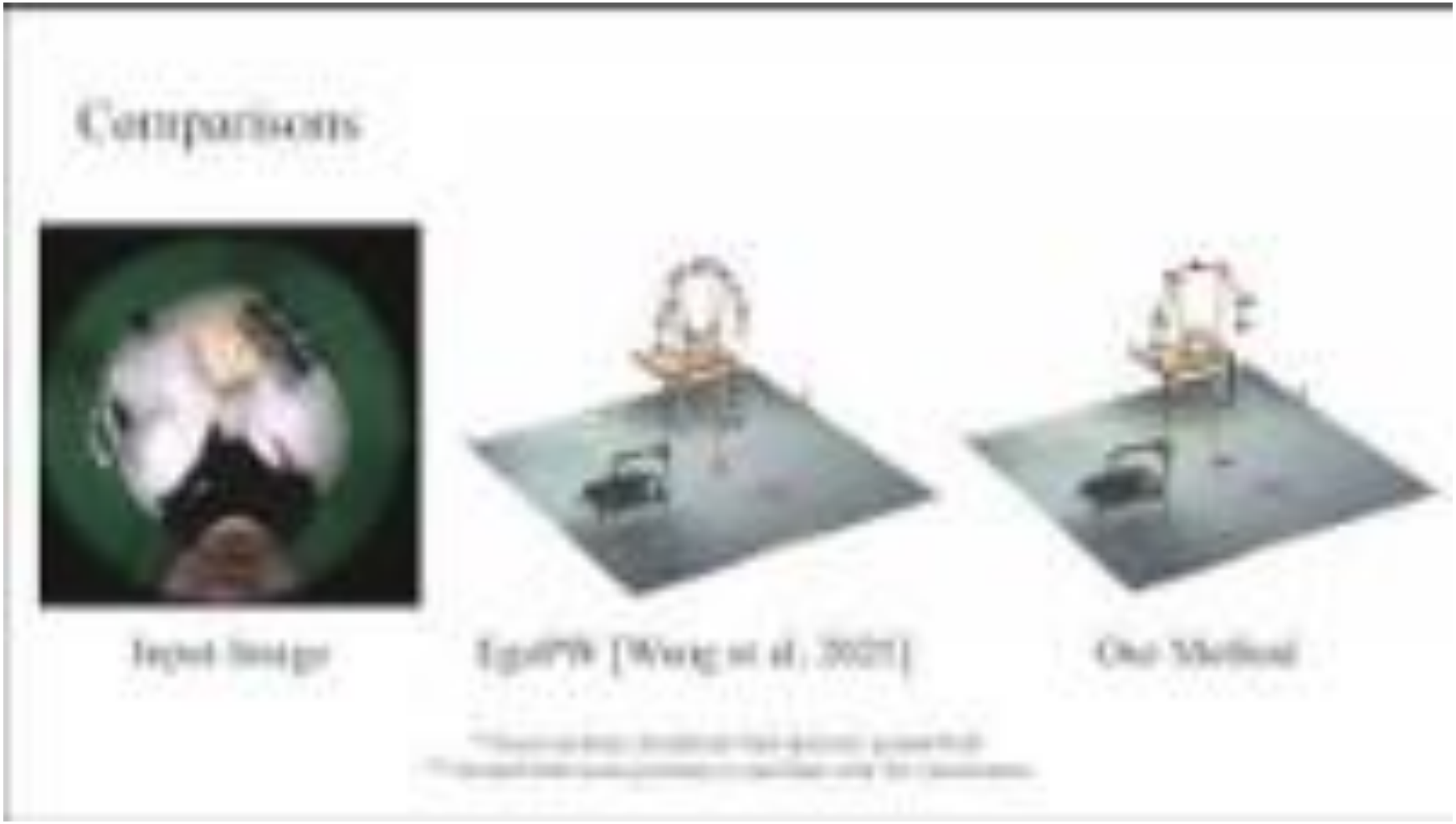
Image generation (2)

Image generation (3)

Action recognition (1)

- A technique for recognizing the intention of human behavior in the image

Action recognition (2)



Action recognition (3)

Facial motion capture

Facial appearance capture

Q&A