

U-NET APPROACH FOR THE AIRBUS SHIP DETECTION CHALLENGE



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ABOUT THE CHALLENGE

Airbus Ship Detection Challenge on Kaggle

Goal: Swiftly and accurately identifying ships in satellite imagery

Allowing different organizations to better oversee the oceans because of

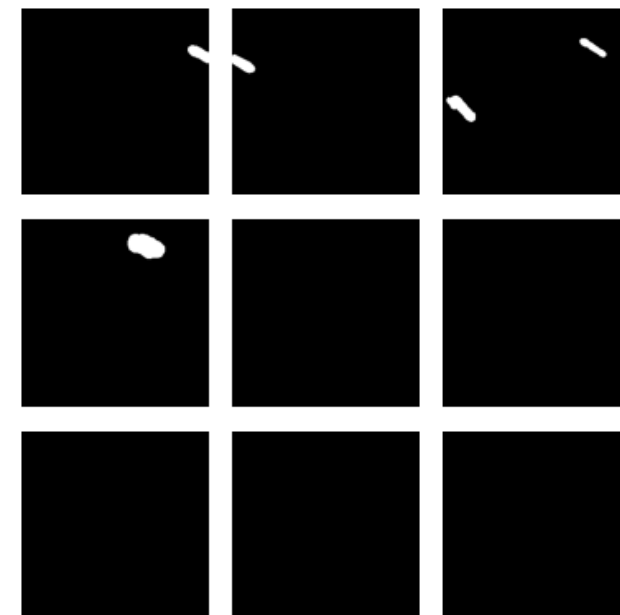
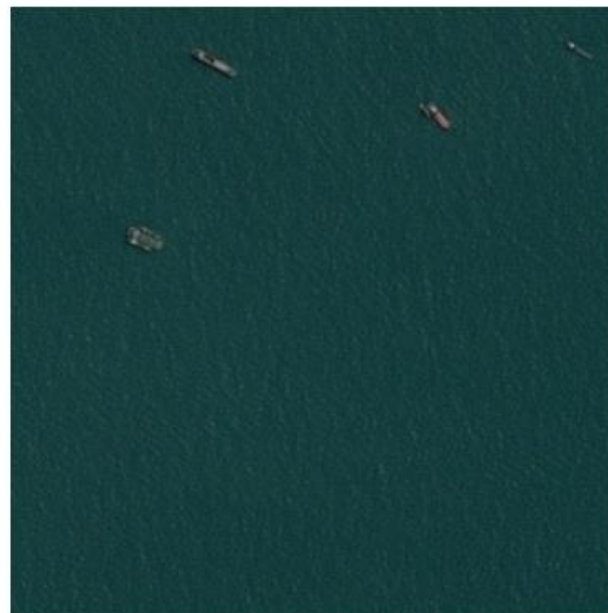
- Accidents,
- pirate attacks,
- illicit drug and cargo transportation,
- and illegal fishing

Poses additional difficulty:

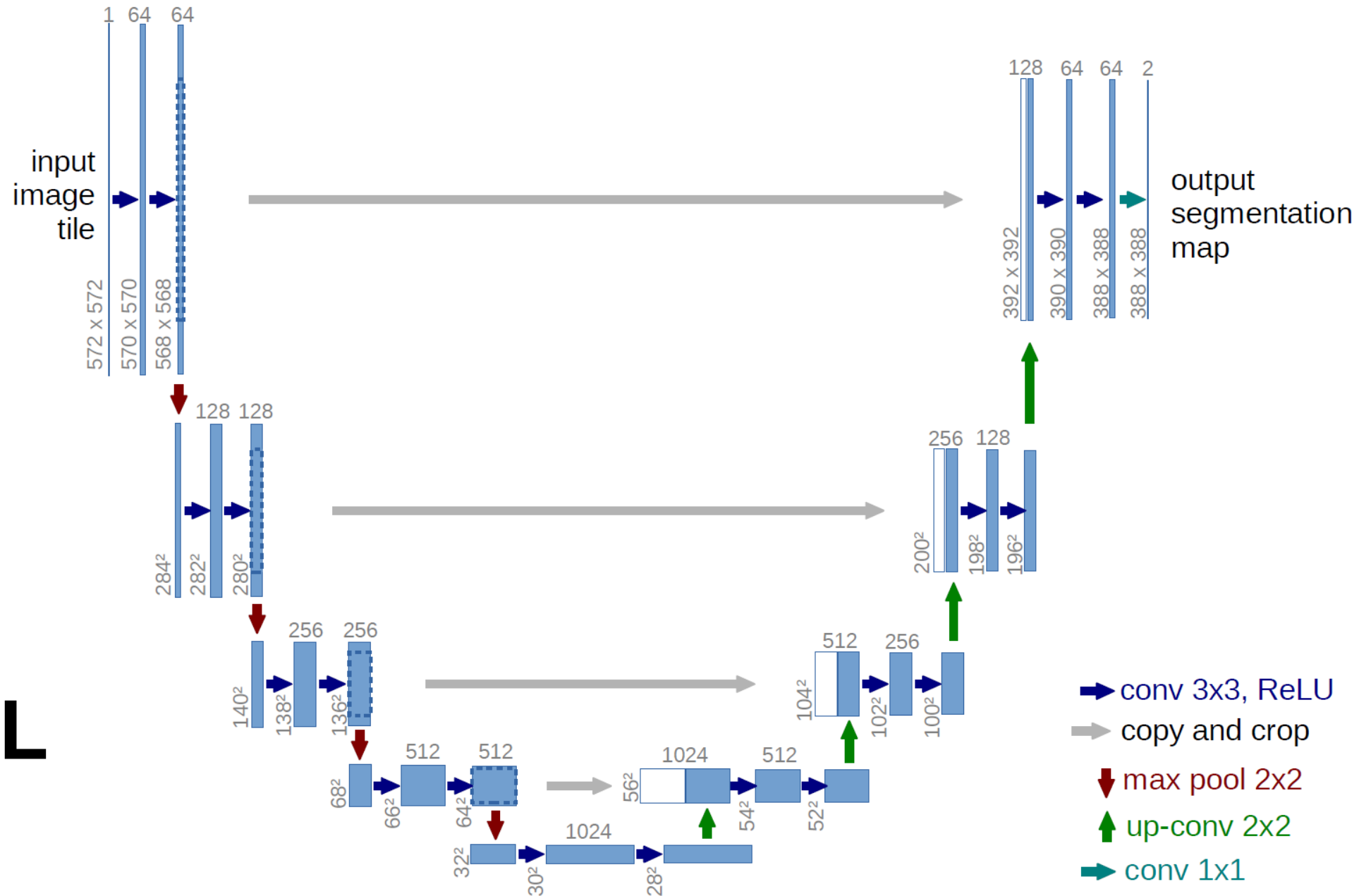
- Ships obscured by clouds,
- adverse weather conditions,
- exceptionally small,
- within harbors amid diverse structures and terrain

DATASET

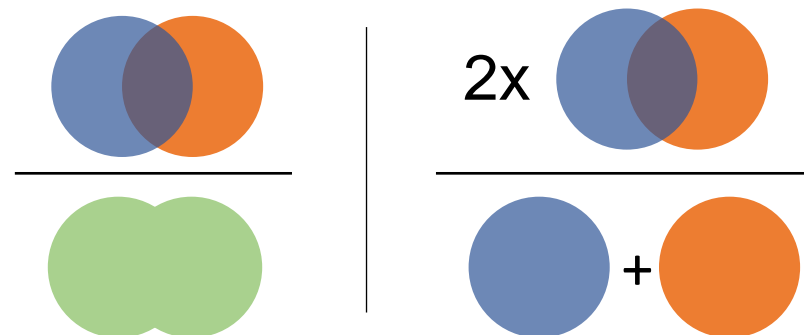
- Airbus Ship Detection dataset: 192556 images
- Only 42556 contained ships
- We created a subset of 60000 images with all images containing ships
- Training 90%
- Validation 5%
- Test 5%



MODEL

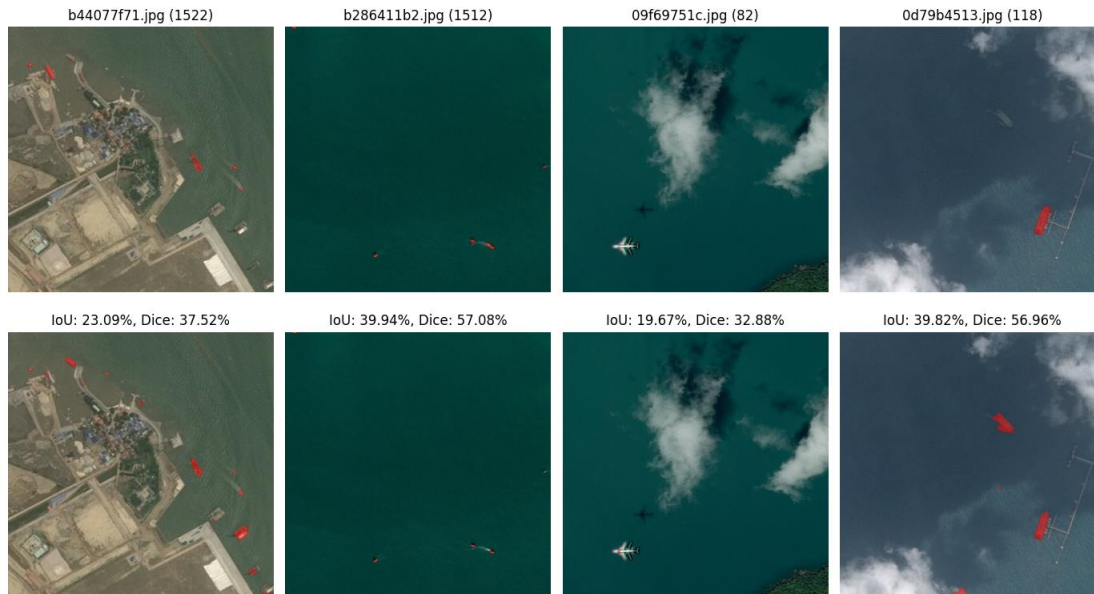


EVALUATION

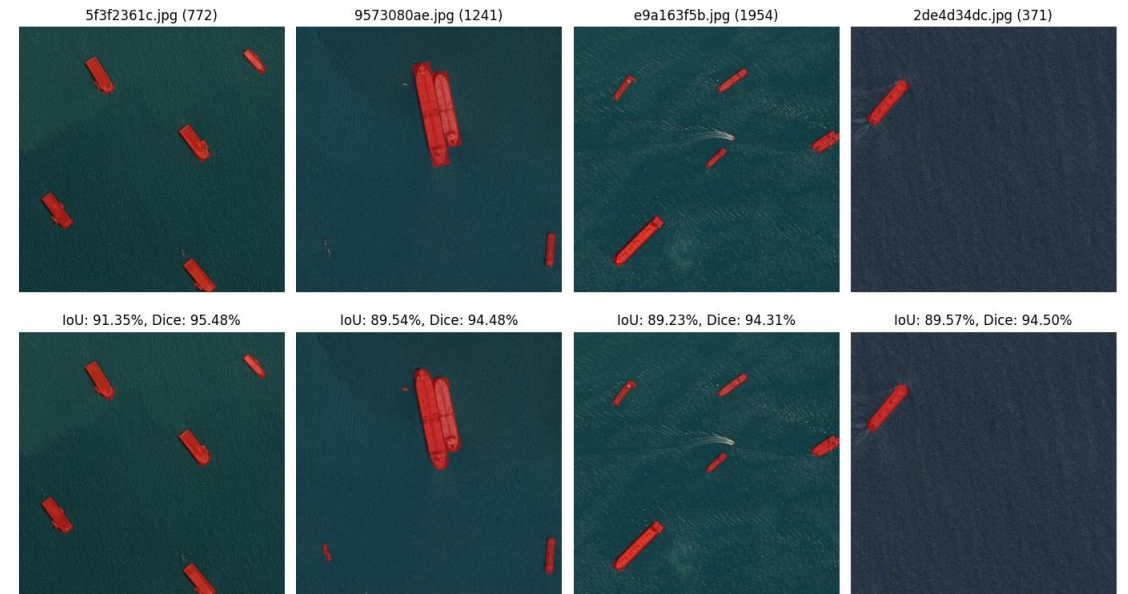


	IoU Score	Dice Score
Full-sized images	63.34%	72.88%
256 × 256 regions	86.09%	87.90%
256 × 256 regions that contain ships	60.68%	69.39%
Full-sized images with model trained on full sized images	54.54%	63.39%

EVALUATION

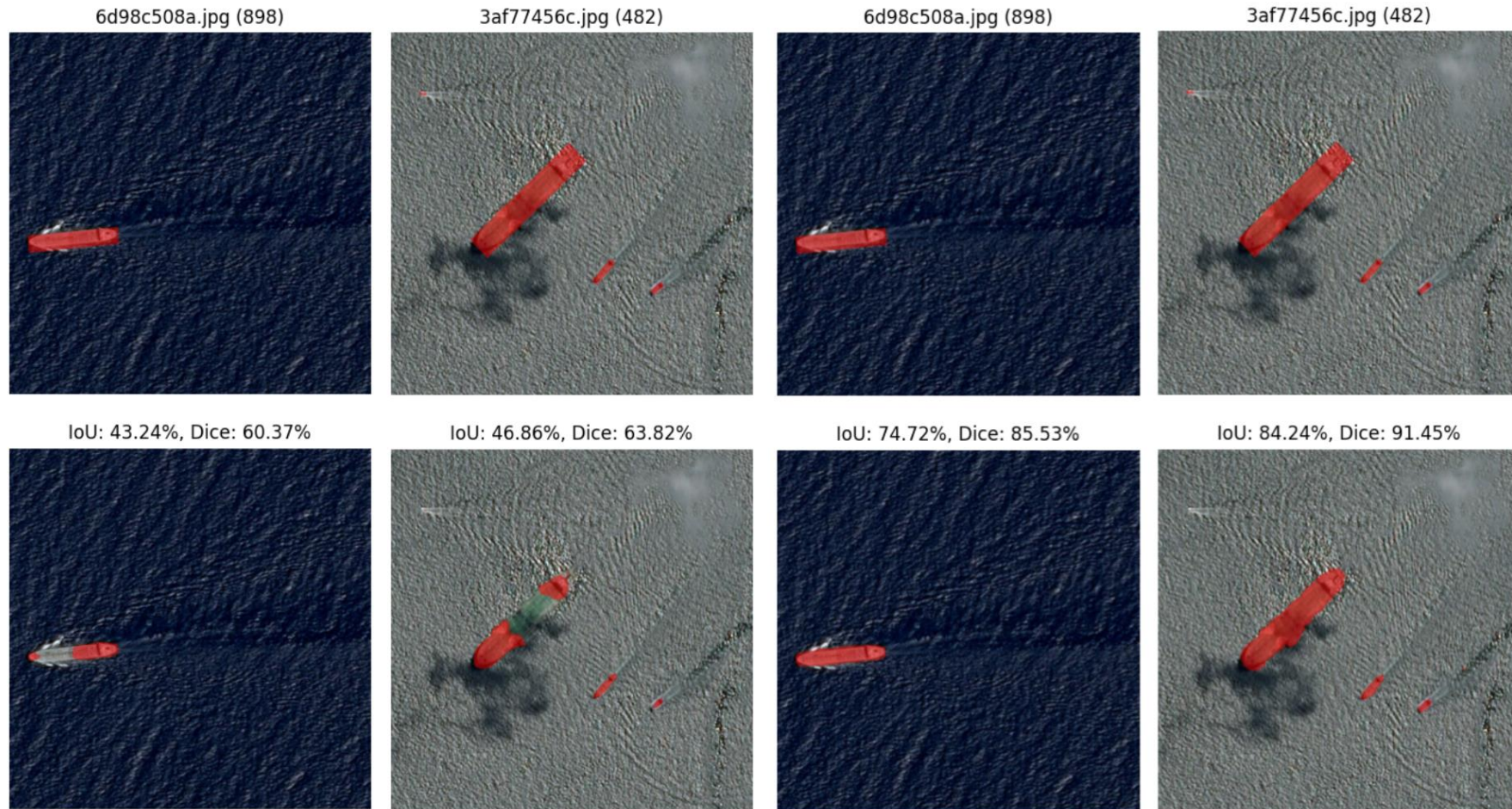


Where the model struggles



Where the model performs best

CONCLUSION



Trained on full-sized images

Trained on cropped images