Group A0: Pixel-wise anomaly detection for AOS

Computer Vision Project 2021/2022

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ABSTRACT

In this work the project for computer vision exercises in year 2021/22 of group A0 is described. We use an unsupervised approach without any deep learning models, just purely classical computer vision techniques to detect anomalies and predict bounding boxes on given images.

KEYWORDS

pixel-wise, anomaly detection, mask, occlusion, merging, unsupervised, forest, wood, human, rescue

1 DESCRIPTION

As a first start and overview [1] was investigated. Soon we skipped the Autoencoder and Discriminator part of it because we did not benefit from it, we only used the RX detector from it and proceeded with classical image masking methods with OpenCV.

Every image sample folder contains 7x10 images, where we merge over the camera axis, which result in 7 merged images for 7 timesteps. We only use the 1st, 3rd and 7th timestep image to obtain moving objects.

**If needed some formula..**

 (1)

**Continuation**

which follows immediately after the **DisplayFormula** (numbered equation). The Insert paragraph text here. **Some other formula..**



The **Blablabla** style distinguishes it from a numbered equation.



Figure 1: some figure

**Theorem/Proof/Lemma.** There is a theorem.

Some other things.

1.1 Results

We evaluate our algorithm on the validation images:

*1.1.1 Validation dataset.* Percentage for validation dataset

ACKNOWLEDGMENTS

No acknowledgements?

REFERENCES

[1] Sertac Arisoy, Nasser M. Nasrabadi, 2021. Unsupervised Pixel-wise Hyperspectral Anomaly Detection via Autoencoding Adversarial Networks*. arXiv*, 1 (Jan, 2021)

Conference Location:El Paso, Texas USA

ISBN:978-1-4503-0000-0/18/06

Year:2018

Date:June

Copyright Year:2018

Copyright Statement:rightsretained

DOI:10.1145/1234567890

RRH: F. Surname et al.

Price:$15.00