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Title  *Garbage Image Segmentation Using Combination of Thresholding Algorithms and Pyramid Scene Parsing Network*

Abstract  Garbage is one of the biggest problems in Indonesia, even most of country in the world. The amount of garbage increases every year, therefore a reliable method is needed to prevent the contamination of garbage on environment. Garbage sorting (based on its material) is an important part of garbage management system. Garbage sorting is really high, a fast and accurate garbage sorting process is needed to improve the overall garbage management system. One of the most important processes is garbage image segmentation. This research proposes garbage image segmentation process by using Pyramid Scene Parsing Network (PSPNet) with the combination of thresholding algorithms as the input for the network. Then it is compared with PSPNet that uses a RGB image as an input. The results of RGB image are better than the image from combination of thresholding algorithms as an input for PSPNet with the maximum F1 Score is up to 0.92. Comparison results are competitive where the difference of F1 score between the proposed method and PSPNet with RGB image is less than 0.02.

Category		
Keywords		pspnet; garbage image; image segmentation
Topics		Digital Image Processing
Presenter(s)		presenter not specified
Session		S3: <i>Machine Learning and It's Applications 1</i> from Tue, November 10, 2020 13:00 WIB until 16:00 (6th paper) (computed 16:00 WIB)
DOI		
Appears in attendee proceedings and IEEE Xplore?		both
Status		accepted Visible since Oct 1, 2020 23:19 America/New_York.
Notes		
Copyright form		IEEE; IEEE: Oct 18, 2020 22:29 America/New_York

Review manuscript	Final manuscript	Stamped	Stamped-e	Presentation
 no upload: wrong paper status	 no upload: more than 180 days past deadline	 no upload: cannot upload stamped files	 no upload: cannot upload stamped files	 no upload: more than 180 days past deadline

Personal notes



You are chair for this conference. You have authored an accepted paper in this conference and assigned a review.

Reviews

19 Full Papers Reviews

Review 1 (Reviewer A)

Reviewer [Dian Ardiana](#) (A); expired; assigned Sep 5, 2020 09:01 America/New_York; due Oct 17, 2020 13:59 America/New_York ; last reminded Sep 20, 2020 11:34 America/New_York

Review 2 (Reviewer B)

Reviewer [Thaweesak Yingthawornsu](#) (B); declined; assigned Sep 5, 2020 09:01 America/New_York; due Oct 17, 2020 13:59 America/New_York

Review 3 (Reviewer C)

Reviewer [lickho Song](#) (C); declined; assigned Sep 5, 2020 09:01 America/New_York; due Oct 17, 2020 13:59 America/New_York

Review 4 (Reviewer D)

Reviewer [Sergey B. Biryuchinskiy](#) (D); notneeded; assigned Sep 5, 2020 09:01 America/New_York; due Oct 17, 2020 13:59 America/New_York

Review 5 (Reviewer E)

Reviewer [Ali H. Hamad](#) (E); completed; assigned Sep 5, 2020 09:01 America/New_York; due Oct 17, 2020 13:59 America/New_York ; completed Sep 11, 2020 06:01 America/New_York

Overall evaluation	Reviewer's confidence	Novelty/Originality	Significance of Topic	Technical Quality	Presentation	Literature
Accept (revision required) (5)	(High) (2)	Good (2)	Good (2)	Good (2)	Good (2)	Inadequate (0)

Comment About the Paper (Please give an additional comment for this paper.)

nice work, required a literature survey

Review 6 (Reviewer F)

Reviewer [Hamsa A Abdulkareem \(F\)](#); completed; assigned [Sep 5, 2020 09:01 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#); completed [Sep 21, 2020 11:29 America/New_York](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Overall evaluation	Reviewer's confidence	Novelty/Originality	Significance of Topic	Technical Quality	Presentation	Literature
Weak Accept (revision required) (4)	(High) (2)	Adequate (1)	Adequate (1)	Adequate (1)	Good (2)	Inadequate (0)

Review 7 (Reviewer G)

Reviewer [Mas Rina Mustaffa \(G\)](#); declined; assigned [Sep 5, 2020 09:01 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 8 (Reviewer H)

Reviewer [Paolo Crippa \(H\)](#); expired; assigned [Sep 5, 2020 09:01 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#); last reminded [Sep 20, 2020 11:34 America/New_York](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 9 (Reviewer I)

Reviewer [Asep Najmurokhman \(I\)](#); completed; assigned [Sep 5, 2020 09:01 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#); completed [Sep 21, 2020 03:24 America/New_York](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Overall evaluation	Reviewer's confidence	Novelty/Originality	Significance of Topic	Technical Quality	Presentation	Literature
Accept (revision required) (5)	(High) (2)	Good (2)	Adequate (1)	Good (2)	Adequate (1)	Adequate (1)

Comment About the Paper (Please give an additional comment for this paper.)

This paper discusses segmentation of the image of waste goods using a combination of Thresholding Algorithm and Pyramid Scene Parsing Network. The paper is suitable with the topic of the seminar. However, there are several things that must be improved in this paper, namely as follows:

1. Please be aware with usage of the number, commas and point have different meanings, especially numbers that appeared in Introduction, and those written in Fig. 7-9.
2. Please using the x symbol not letter to denote multiplication or dimension.
3. Some figures have a small character which could not be read properly.
4. Please insert the variable and its unit in Fig. 10 to give a clarity of those figures.
5. Authors claim that the parameters taken have no significant effect on the F1 score. This conclusion is not straightforward because the authors have not explored the relationship between these parameters and the results of the F1 score. In table 1, only 3 conditions are taken for the dropout parameter and only 2 conditions are taken for the layer on the ResNet. It is suggested that the number of parameters are increased to observe their relationship with F1 score.

Review 10 (Reviewer J)

Reviewer [Giovanni B Palmerini \(J\)](#); notneeded; assigned [Sep 5, 2020 09:01 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 11 (Reviewer K)

Reviewer [Abbas Hussien Miry \(K\)](#); declined; assigned [Sep 13, 2020 21:53 America/New_York](#) by [Adi Wibowo](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 12 (Reviewer L)

Reviewer [Srinivasulu Tadisetty \(L\)](#); notneeded; assigned [Sep 13, 2020 21:53 America/New_York](#) by [Adi Wibowo](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#); last reminded [Sep 20, 2020 11:34 America/New_York](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 13 (Reviewer M)

Reviewer [Hamid Alasadi \(M\)](#); completed; assigned [Sep 13, 2020 21:53 America/New_York](#) by [Adi Wibowo](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#); completed [Sep 15, 2020 17:31 America/New_York](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Overall evaluation	Reviewer's confidence	Novelty/Originality	Significance of Topic	Technical Quality	Presentation	Literature
Accept (revision required) (5)	(Expert) (3)	Good (2)	Good (2)	Good (2)	Good (2)	Good (2)

Confidential remarks for the program committee (If you wish to add any remarks intended only for PC members please write them below. These remarks will only be seen by the PC members having access to reviews for this submission. They will not be sent to the authors. This field is optional.)

Dear Authors:

- The introduction must contain details of major sections of the paper.
- Mathematical equations must be mentioned for each equation reference.
- The paper needs a complete review in grammar.

Review 14 (Reviewer N)

Reviewer [Pablo Corral \(N\)](#); assigned; assigned [Oct 19, 2020 02:48 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)







Review 15 (Reviewer O)

Reviewer [Ali Rafiei \(O\)](#); assigned; assigned [Oct 19, 2020 02:48 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 16 (Reviewer P)

Reviewer [Sinan H. Alkassar \(P\)](#); assigned; assigned [Oct 19, 2020 02:48 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#) [🔗](#) [👤](#) [✉](#) [📄](#) [🔍](#) [🗑](#)

Review 17 (Reviewer Q)

Reviewer [Oday Abdul Lateef Ridha \(Q\)](#); assigned; assigned [Oct 19, 2020 02:48 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#)  
    

Review 18 (Reviewer R)

Reviewer [Anna Antonyová \(R\)](#); assigned; assigned [Oct 19, 2020 02:48 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#)     
  

Review 19 (Reviewer S)

Reviewer [N. Prabaharan \(S\)](#); assigned; assigned [Oct 19, 2020 02:48 America/New_York](#); due [Oct 17, 2020 13:59 America/New_York](#)     
  

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