EUVIP2021 Tutorial Proposal

Subjective data collection

By

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Overview and objectives of the tutorial

Many different methods and techniques in the fields of image processing and computer vision are highly dependent on some sort of subjective data. This could range from ground truth data collected for objective detection or segmentation techniques to subjective scores collected for different quality evaluation metrics mainly image quality, video quality, or aesthetic quality assessment. While our reliance on subjective data is a good evidence of the importance of such data, not enough attention has been paid on how subjective data is collected. In recent years, with the increase in the use of state-of-the-art machine learning techniques and more specifically convolutional neural networks the need to have access to large-scale datasets has introduced a new challenge in subjective data collection.

In this tutorial we will first provide the audience with an in-depth overview of the use of subjective data and the different types of subjective data collected depending on the field of research. We then move on to introduce different approaches for collecting subjective data both under controlled environment and using online platforms. In this stage we will also discuss different parameters we should consider when collecting subjective data.

The tutorial will take advantage of the virtual nature of this year's EUVIP and so the audience will have the chance to work in breakout room in groups to design different types of subjective tests and also participate in tests as an observer. Such an approach will not only give a hands-on experience to the attendees in designing a subjective experiment but also by participating in different experiment they could have a better understanding of the challenges faced by observers who participate in such experiments.

Biographical Sketch

SEYED ALI AMIRSHAHI received the B.Sc. degree in electrical engineering from the Amirkabir University of Technology, Iran, in 2008, and the Ph.D. degree from the Computer Vision Group, Friedrich-Schiller University of Jena, Germany, in 2015. He graduated from the Master Erasmus Mundus Color in Informatics and MEdia Technology (CIMET) Program, in 2010. In 2016, he was a Postdoctoral Fellow with the International Computer Science Institute (ICSI), Berkeley, CA. From 2017 to 2019, he was employed at the Norwegian University of Science and Technology (NTNU), Gjøvik, as a FRIPRO/Marie Sklodowska-Curie Postdoctoral Fellow and a Visiting Researcher with the Institut Galilée, University of Paris 13 Sorbonne Paris Cité. He is currently an Associate Professor with the Department of Computer Science, NTNU. He is also a member of The Norwegian Colour and Visual Computing Laboratory (Colourlab). His research interest includes image and video quality assessment.

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