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24 June, 2017

Boaz Arad receives EMVA Young Professional Award 2017

Prague/Barcelona, 24 June, 2017. The EMVA Young Professional Award 2017 goes to Mr. Boaz Arad, for his work "Sparse Recovery of Hyperspectral Signal from Natural RGB Images". Arad, age 32, obtained his Computer Science B.Sc. (cum laude) from Ben-Gurion University of the Negev (BGU) in 2012. Continuing towards a fast-tracked Ph.D. at the BGU Interdisciplinary Computational Vision Laboratory (ICVL), he received an M.Sc. in 2014 and expects to complete his Ph.D. by 2018. In addition to his studies, Boaz currently serves as CTO of the startup company "HC-Vision".

Sparse Recovery of Hyperspectral Signal from Natural RGB Images
Hyperspectral (HS) imaging systems are capable of collecting the complete spectral signature reflected from each point in a given scene - producing a much more spectrally detailed image than that provided by RGB cameras. To this date, scientific and industrial applications that require hyperspectral information have relied almost exclusively on traditional scanning hyperspectral imaging systems. These systems are expensive, bulky, and often require close to one minute acquiring an entire scene. Replacing these systems with low-cost, compact, and rapid RGB cameras could provide exciting opportunities in many fields.

The awarded work addresses the task of recovering 31-channel hyperspectral information from 3-channel RGB images of natural scenes. Despite the severe 31-to-3 dimensionality reduction that occurs while projecting hyperspectral information to RGB, the methodology used is able to recover the former from the latter with 90-95 percent accuracy over a wide variety of scenes.

In addition to producing state-of-the-art results at the time of publication, this approach produced comparable results to previous methodologies which relied on hybrid HS/RGB input. The methodology often surpassed the performance of the latter despite a significant information disadvantage.

The achievements above were made possible by a new natural hyperspectral image database. This database, collected over the course of the last four years of Boaz's graduate studies, contains over 200 high spatial-spectral resolution natural hyperspectral images and is the largest, most varied, and highest resolution collection of natural hyperspectral images collected to date.

Young professional award part of EMVA Business Conference

The EMVA Young Professional Award is an annual award to honor the outstanding and innovative work of a student or a young professional in the field of machine vision or image processing. It is the goal of the European Machine Vision Association EMVA to further support innovation in the machine vision industry, to contribute to the important aspect of dedicated machine vision education and to provide a bridge between research and industry. With the annual Young Professional Award the EMVA intends to specifically encourage students to focus on challenges in the field of machine vision and to apply latest research results and findings in computer vision to the practical needs of the industry. The awardee was announced on June 24 during the 15th EMVA Business Conference in Prague/Czech Republic, where he also had the opportunity to present his work as part of the regular conference program.

The date of the 16th EMVA Business Conference in Dubrovnik/Croatia will be announced soon.

Picture source: EMVA

About EMVA:

Founded in May 2003 in Barcelona, the European Machine Vision Association currently has about 100+ members representing more than 20 nations. Its aim is to promote the development and use of machine vision technology and to support the interests of its members - machine vision companies, research institutions and national machine vision associations. The main fields of work of EMVA are: standardization, statistics, the annual EMVA Business Conference and other networking events, European research funding, public relations and marketing. To find out more visit the web site www.emva.org.