Call-for-papers: Special Issue on “Computer Vision in the Wild”
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Computer vision started as a sub-area of artificial intelligence, of which the goal was to build artificial life forms by using computers. Since the external world surrounding us is three-dimensional and the image projected on a retina or an imaging device is two-dimensional, significant efforts have been devoted to developing algorithms for recognizing the 3D world using computers in the similar way that human visual system works. The key challenge has been to augment the dimensional reduction by emulating the common sense of human being, developed in their long history of evolution, using computational models.

Computer vision has long been considered a research area that only satisfies academic curiosities. The formulation of common sense in rigorous mathematical models is an exciting endeavor. However, due to extensive computational time and/or fragile characteristics of resulting models mainly based on linear approximation, they were considered less practical and only able to handle toy problems.

Evidence abounds that Cambrian explosion is happening in Computer Vision. For example, the CVPR conferences in the 1990s and 2000s had typically around 500 attendees. The number of participants reached almost 10,000 at CVPR 2019. That is a 20 times increase in about 10 years. The number of start-ups in computer vision and the amount of venture funding invested in this area are skyrocketing. This is because people now believe that the recent breakthroughs have made computer vision techniques work in the real world, and that computer vision is overcoming the barrier of linear approximation and has become a serious business. Cambrian explosion in biology occurred due to the acquisition of visual organs, while Cambrian Explosion in Computer Vision is occurring thanks to the disruption brought upon by deep learning techniques, supported by big data and high-performance computing platforms.

This special issue aims to highlight cutting-edge research results that lead to the Cambrian explosion in computer vision. We especially look forward to manuscripts that present the current level of the state-of-the-art and indicate the limitations yet to be overcome for reaching the next stage of developments.

The scope includes (but is not limited to):

- Pattern detection/recognition in the wild
- Face detection/recognition/tracking in the wild
- Object detection/recognition/tracking in the wild
- Gesture detection/recognition in the wild
- Event/action detection/recognition in the wild
- Low-shot learning in the wild
- Augmented/virtual/mixed reality in the wild
- Autonomous driving and field robotics

Submission deadline: Dec 20th, 2019
Notification of acceptance: April 30, 2020
Publication: All papers will be published online upon acceptance, and collected online for the special issue.

- Authors are encouraged to submit high-quality, original work that has neither appeared in, nor is under consideration by other journals.
- All papers will be reviewed following standard reviewing procedures for the Journal.
- Papers must be prepared in accordance with the Journal guidelines: www.springer.com/11263
- Submit manuscripts to: http://VISI.edmgr.com. Select the article type, “Computer Vision in the Wild” when submitting.