Augmented Images

International Symposium
University of Liège

Place du XX-Août 7
October 6-7, 2022

Organisation
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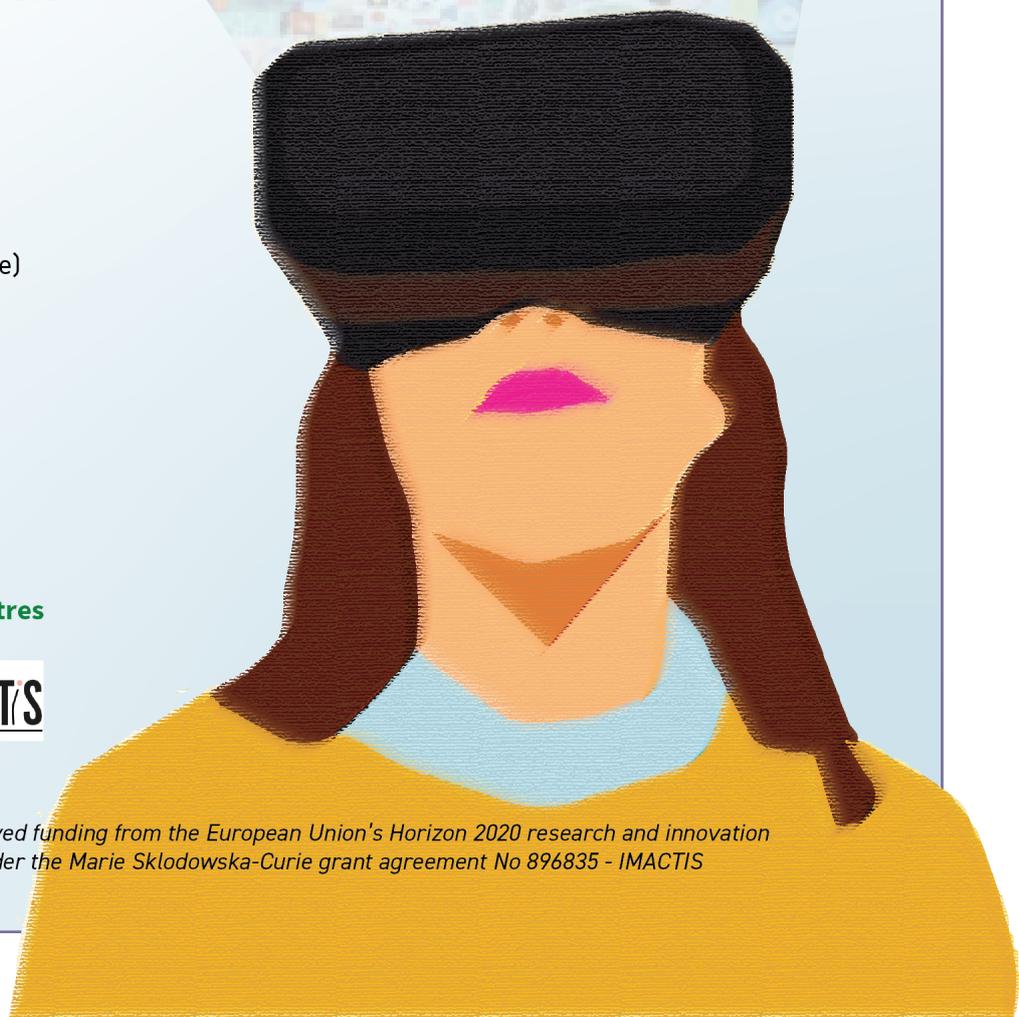
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Augmented Images.
New Challenges in the Era of Big Data Algorithms and Digital Environments

Org. Maria Giulia Dondero (FNRS/ULiège) and Enzo D'Armenio (FNRS/ULiège)
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The current digital revolution is enhancing the social and scientific relevance of images by extending their capacities thanks to the recent advances in computer science methods.

The wide availability of image corpora, usually associated with notions such as "media visualization," "big image data," or "big visual data" (Manovich 2015; 2017; Klinke 2017; Dondero 2017, 2019) qualifies computer vision analysis as a new field of cultural investigation whose applications promise the renewal of art history models (Drucker 2013) and video analytics (Kuhn 2018), as well as a new approach to social life through the analysis of images produced daily by citizens using portable devices (Manovich 2017; Rogers 2021; Hand 2020; D'Armenio & Dondero 2021a; D'Armenio 2019).

Computer science technologies are also providing images with new analytical capabilities. Data visualization methods realized through the filter of computer vision algorithms (Nixon & Aguado 2012) allow the development of *visualizations of visual analyses* based on the plastic and formal qualities of images (Monroy, Bell, & Ommer 2012; Manovich 2020; Seguin 2018). The recent evolution of deep learning methodologies accomplished with the help of convolutional neural networks (Le Cun et al. 2015) and the refinement of computer tools for visual feature extraction are revolutionizing the overall field of image science. As demonstrated namely by the *Cultural Analytics*, *Replica*, and *Semia* projects (Manovich 2009; Seguin 2018; Masson & Olesen 2021), the analysis of large collections of images, realized automatically on the basis of what semiotics calls the "plastic dimension" (oppositions and differences in terms of color, shape, or texture; see Greimas 1989; Fontanille 1998; Basso Fossali 2013; Dondero 2020) makes it possible to find new formal relations between images, realizing in a way the project of a genealogy of visual forms, as pursued in the theoretical work by Warburg and Focillon.

Image montages, image diagrams, and more generally, the visualizations made accessible through "media visualization" can assume a role of environments where people can manipulate, compare, and analyze the composition and visual features of images. Augmented reality has also begun to be implemented in museal spaces where the experiments realized with the aid of virtual reality technologies, as well as through the superimposition of imaginary onto the real, provide images with new interactive and immersive features, partially breaking with the evolution of the mimetic and iconic paradigm of the 19th and 20th centuries

(Pinotti 2017, 2021; Calleja 2011; D'Armenio & Dondero 2021b). Entertainment practices, as well as those relating to the field of digital heritage, are being profoundly transformed by these new immersive digital activities, as shown by the interactive experiences realized with headsets such as *Vive* and *Oculus Rift*. Think of the importance accorded in European projects to the digital reproduction of cities, as in the *Europe Time Machine* project. This set of technologically-assisted practices allows the transformation of the spaces through various forms of operations of superimposition and mirroring.

Moreover, the daily production of images has become a rich field of social investigation. The analysis of large corpora of images taken by common citizens has already made it possible to find remarkable connections between visual production and the economic situation of a Manhattan neighborhood (Manovich 2017), and to relate the production of images realized in normal times with what occurred during historical events or during times of crisis (Manovich et al. 2014).

This analytical practice of algorithms not only represents an opportunity to capture the evolution of visual art and communication well beyond metadata analysis strategies (Saleh et al. 2016), but it is also shaping new forms of human aggregation on social networks (Cardon 2015), where visual features are used to model the behavior of users and to guide recommendations (Finn 2017; Casilli 2011).

In the current digital state of the art, algorithms are the fundamental mediators between immanent computer operations and transcendent cultural production (Bachimont 2010, 2017). Qualifying themselves as hybrid operators, for the way they implement digital logic within social life, algorithms extend their scope well beyond artistic and research activities, leading to the emergence of an *algorithmic aesthetics* (Manovich 2019). Algorithms process human behavior to recommend socioculturally analogous circles of people as friends (Facebook), entertainment products in line with modelled tastes and with previous viewings (Netflix), and even sexual partners on the basis of the faces to which "likes" have been accorded in the past (Grindr and Tinder).

Finally, computer science tools assign new roles and new capabilities to visual language, tools that are at the same time *analytical*, *immersive,* and *socializing*. In these three cases, images are *augmented*. In the first case, visualizations are understood as montages and as diagrams of images with an analytical and/or hermeneutic objective in digital art history and heritage practices; in the second case, visual grammar participates in the construction of available-to-manipulation environments as seen in museum and exposition settings as well as in politics (Leone 2022), entertainment and urban big data projects. In the third case, the large amount of images we produce, choose, and share through social media feeds an algorithmic "imagination" where image-processing algorithms influence common tastes and feelings, thereby impacting people's identities and social relationships.

This symposium on augmented images is devoted to these three domains of big data practices, where augmented images are analytical, immersive, and socializing tools at the service of the construction of meaning in the humanities.

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University of Liège, October 6-7, 2022
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**Augmented Images
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PROGRAM

Salle Wittert, October 6, 2022

9:00-9:30 Opening Address by Anne-Sophie Nyssen, the President of the University of Liège

9:30-10:00 Maria Giulia Dondero (FNRS/ULiège) & Enzo D'Armenio (FNRS/ULiège) *Introduction*

Chairs of the session: Maria Giulia Dondero (FNRS/ULiège) and Enzo D'Armenio (FNRS/ULiège)

10:00-10:45 Lev Manovich (City University of New York) *What Computers Can and Cannot See? New Opportunities and New Challenges for Visual Culture Analytics*

10:45-11:30 Virginia Kuhn (University of Southern California) *The Gesture and the Archive: Sacred Poses and Computer Vision*

11:30-12:15 Massimo Leone (University of Turin/University of Shanghai/Fondazione Bruno Kessler) *The Augmented Face: Digital Mask or Digital Veil?*

Chairman of the session: Ralph Dekoninck (UCL)

14:30-15:15 Yannis Skarpelos (Panteion University Athens) *Modeling Plastic Signs in Big Visual Corpora*

15:15-16:00 Bruno Bachimont (University of Technology Compiègne)
How Can Augmented Images Meet the Variability of Representation of Reality? Repeated Computations versus Aesthetic Creativity

16:00-16:30 Break

16:30-17:15 Antonin Descampe (UCL) *Machine Learning Methods to Detect Subjectivity in the News Press: Towards a Multimodal Approach based on Text and Images*

17:15-18:00 Houda Lamqaddam (ULiège) *Steps Towards a Grammar of Forms in Visual Arts as input for Computer Vision Algorithms*

18:00 End of symposium day 1

Salle de l'Horloge, October 7, 2022

Chairman of the session: Thierry Lenain (ULB)

9:30-10:15 Johanna Drucker (University of California Los Angeles) *Images after Optics: Augmentation Technologies beyond the Visible Spectrum*

10:15-11:00 Andrea Pinotti (University Statale de Milan) *Immersion/Emersion: On a Polarity in Digital Environments*

11:00-11:30 Break

11:30-12:15 Claudio Paolucci (University of Bologna) *Prosthesis and Simulacra: A Semiotic Perspective on Virtual and Augmented Reality*

Chairwoman of the session: Virginia Kuhn (USC)

14:30-15:15 Stephan Günzel (University of Europe for Applied Sciences) *Augmented Identity. Introduction to a New Field in Media Studies*

15:15-16:00 Sofia Pirandello (University Statale de Milan) *Imagin-action. Augmented Reality Feedback on Human Imagination*

16:00-16:45 Lia Yoka (Aristotle University of Thessaloniki) *More Art Historical Precedents to the Analysis of Big Visual Data*

17:00 End of symposium day 2. Final remarks.