

# KEYNOTE TALK

TBD

## Visual Content Manipulation by Learning Generative Models

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**Abstract:** Visual content manipulation involves modifying or re-synthesizing an input image such that the output follows a guidance input, such as a target layout, semantic clues, or new attributes. However, even with the development of deep generative models, visual content manipulation is challenging because it typically requires transferring visual patterns in a non-rigid fashion. Moreover, unsupervised learning schemes are often required to learn models without image-guidance data pairs. I will focus on how to: 1) design model architectures and mechanisms for visual pattern transfer, 2) design unsupervised learning schemes for learning from unpaired data, and 3) improve the fidelity of the generated content. Specifically, I will present research results on a range of manipulation tasks including pose-guided transfer, example-guided image synthesis, semantic local editing, image completion, and structure-guided inpainting.



**Speaker Bio-Sketch:** Jiebo Luo is the Albert Arendt Hopeman Professor of Engineering and Professor of Computer Science at the University of Rochester. His research focuses on computer vision, NLP, machine learning, data mining, social media, computational social science, and digital health. He has authored nearly 600 papers and over 90 U.S. patents. Prof. Luo is also an active member of the research community: a Fellow of NAI, ACM, AAAI, IEEE, IAPR, and SPIE, Editor-in-Chief of the IEEE Transactions on Multimedia (2020-2022), as well as a member of the editorial boards of the IEEE Transactions on Pattern Analysis and Machine Intelligence (2006-2011), IEEE Transactions on Multimedia (2004-2009, 2013-2016), IEEE Transactions on Circuits and Systems for Video Technology (2010-2012), IEEE Transactions on Big Data (2018-), Pattern Recognition (2002-2020), ACM Transactions on Intelligent Systems and Technology (2015-present), and so on. In addition, he served as an organizing or program committee member for numerous technical conferences sponsored by IEEE, ACM, AAAI, ACL, IAPR, and SPIE, including most notably program co-chair of the 2010 ACM Multimedia Conference, 2012 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016 ACM Conference on Multimedia Retrieval (ICMR), and 2017 IEEE International Conference on Image Processing (ICIP).