CS Seminar

Improving auto-encoder for image inpainting and arbitrary facial attribute editing

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10:30 am

Venue:
Room 308
Chow Yei Ching Building
The University of Hong Kong

Abstract:

Auto-encoder network provides a natural framework to exploit both high level and low level information, and have been widely adopted in many low level vision applications. In this talk, we use image inpainting and facial attribute editing as examples to explain our understanding on auto-encoder for specific tasks. For image inpainting, we introduce a special shift-connection layer to the U-Net architecture, namely ShiftNet, to exploit the merits of both exemplar-based and CNN-based methods, and produce inpainting result with both plausible semantics and fine detailed textures. For facial attribute editing, we explain the importance of encoder-decoder architecture for arbitrary facial attribute editing, and analyze the reasonable solutions to enforce attribute constraint and train attribute classifier. The results show that our method performs favorably in generating realistic attribute editing results with facial details well preserved.

About the Speaker:

Wangmeng ZUO received the Ph.D. degree in computer application technology from the Harbin Institute of Technology, Harbin, China, in 2007. He is currently a Professor in the School of Computer Science and Technology, Harbin Institute of Technology. His current research interests include image enhancement and restoration, image and face editing, object detection, visual tracking, and image classification. He has published over 70 papers in top-tier academic journals and conferences. He has served as a Tutorial Organizer in ECCV 2016, an Associate Editor of the IET Biometrics and Journal of Electronic Imaging, and the Guest Editor of Neurocomputing, Pattern Recognition, IEEE Transactions on Circuits and Systems for Video Technology, and IEEE Transactions on Neural Networks and Learning Systems. He is a Senior Member of IEEE.

All are welcome!
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