3D Human Pose Estimation from Monocular Images with Deep CNN

**Speaker**  
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**Date**  
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**Time**  
4:00 pm - 4:30 pm  
**Venue**  
CS Seminar Room, Y6405, 6th Floor  
Yellow Zone, Academic 1  
City University of Hong Kong  
83 Tat Chee Avenue  
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**Abstract**

In this paper, we propose a deep convolutional neural network for 3D human pose estimation from monocular images. We train the network using two strategies: 1) a multi-task framework that jointly trains pose regression and body part detectors; 2) a pre-training strategy where the pose regressor is initialized using a network trained for body part detection. We compare our network on a large data set and achieve significant improvement over baseline methods. Human pose estimation is a structured prediction problem, i.e., the locations of each body part are highly correlated. Although we do not add constraints about the correlations between body parts to the network, we empirically show that the network has disentangled the dependencies among different body parts, and learned their correlations.

This paper was presented at the Asian Conference on Computer Vision (ACCV 2014) in Singapore, Nov 1-5, 2014.

Supervisor: Dr Antoni Bert Chan  
Research Interests: Computer Vision and Machine Learning in general; Pose Estimation and Deep Learning in particular.

**All are welcome!**

In case of questions, please contact Dr Antoni Bert Chan at Tel: 3442 6509, Email: abchan@cityu.edu.hk, or visit the CS Departmental Seminar Web at http://www.cs.cityu.edu.hk/.