



**The Chinese University of Hong Kong**  
**Non-confidential Abstract of Technology Disclosure**

---

**Title:**

**Real-time Body Segmentation System**

**CUHK Ref. No.:**

07/ENG/271

**Inventor(s):**

Professor King Ngi NGAN, Department of Electronic Engineering

**Non-confidential abstract:**

Segmenting human Body automatically is very important for human behavior analysis, security system, and computer vision. In this paper, we present an efficient segmentation system for cutting human body out from video sequences in real-time. First, a learning based face detector is developed to rapidly find human faces. To speed up the detection process, a face rejection cascade is constructed to remove most of negative samples while retaining all face samples. Then, we develop a coarse-to-fine segmentation approach to extract the body based on a min-cut optimization. Finally, a new matting algorithm has been proposed to estimate the alpha-matte based on an adaptive trimap generation method. Experimental results demonstrate the effectiveness and robustness of our proposed method that can segment human body in real-time.

---

**For further queries, please contact:**

Mr Billy Lam  
Technology Licensing Coordinator  
*Tel:* (852) 2609 8882  
*Fax:* (852) 2603 5451  
*Email:* [billylam@cuhk.edu.hk](mailto:billylam@cuhk.edu.hk)

*Address:*  
Technology Licensing Office  
The Chinese University of Hong Kong  
Room 226, Pi Ch'iu Bldg, Shatin, New Territories  
Hong Kong SAR