

警政勤務及港埠物流影像辨識之應用

葉雲兆^{1,*} 陳武洲² 簡大為³ 留乃俊⁴ 鄭惟元⁵

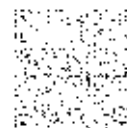
¹中華電信研究院企客方案研究所研究員

²中華電信研究院企客方案研究所研究員

³中華電信研究院企客方案研究所研究員

⁴中華電信研究院企客方案研究所研究員

⁵中華電信研究院企客方案研究所研究員



摘要

影像監控系統在民眾日漸重視安全的情況下，幾乎每個角落都可以看到它的蹤跡，除了有犯罪偵防、事件釐清、現場監控等功能，慢慢地也結合其他應用（交通旅遊、地理資訊系統（Geographic Information Systems, GIS）等），讓系統的效益更為強大。雖然影像監控系統可以將現場的一切錄存下來，但如果沒有搭配影像辨識的技術，這類的系統通常都只能淪為事件發生後，動用大量的人力去找出可疑的人事物。所以，目前許多影像監控系統均已結合數位影像辨識技術，讓使用者可以利用電腦來取代人眼，從頭到尾地觀看影像，以找出可疑物件或犯罪行為。本文將針對警政勤務及港埠物流等兩個領域，提出不同的創新應用，期使系統更具效率。在警政勤務上，利用警戒線警戒區的辨識技術應用於警民連線系統，車牌及車色辨識技術應用於路口監控系統，讓系統更智慧化，再結合110勤務指揮系統及警車定位系統，讓犯罪車輛能即時呈現於指揮中心的電子地圖上，以利警力的指揮調度，讓警政勤務更有效率。在港埠物流上，則以貨櫃辨識技術結合無線射頻辨識（Radio Frequency Identification, RFID）通關系統，取代傳統人力報關通關的流程，

* 通訊作者：葉雲兆

電子郵件：jackyeh@cht.com.tw

The Image Recognition Applications for the Police Duty and the Harbor Logistics

Yun-Jaw Yeh^{1,*}, Wu-Chou Chen², Da-Wei Jain³, Nai-Chun Liu⁴, and
Wei-Yuan Cheng⁵

¹Research Fellow, Telecommunication Laboratories Chunghwa Telecom Co., Ltd., Taiwan

²Research Fellow, Telecommunication Laboratories Chunghwa Telecom Co., Ltd., Taiwan

³Research Fellow, Telecommunication Laboratories Chunghwa Telecom Co., Ltd., Taiwan

⁴Research Fellow, Telecommunication Laboratories Chunghwa Telecom Co., Ltd., Taiwan

⁵Research Fellow, Telecommunication Laboratories Chunghwa Telecom Co., Ltd., Taiwan

Abstract

People pay more and more attention on security issues, so we can see image surveillance system everywhere. Other than crime investigation, crime prevention, event clarification and monitoring, it has been combined with other applications, like traffic, tour and GIS (Geographic Information System), to make it more efficient. Although image surveillance system can record all the surroundings, it needs lots of manpower and time to find out the suspicious ones after some events happened. Now image surveillance system has been combined with digital image recognition techniques to replace human eyes with computers. It can watch the videos to find out the suspects or crime activities. This article will focus on the fields of police and harbor logistics to propose an innovated application to make the image surveillance system more efficient. For the police application, we apply the image recognition techniques on security areas/lines for the police-citizen connection system and use the license plate recognition and vehicle color classification for the road surveillance system. With the 110 Duty Command system and police vehicles location system, the crime vehicles can be showed on the digital map immediately and the

* Corresponding Author: Yun-Jaw Yeh

E-mail: jackyeh@cht.com.tw

police can dispatch the police efficiently. For the harbor logistics applications, we apply the cargo number recognition and RFID techniques to replace the traditional custom clearance to make it more efficient.

Keywords: c110 duty, geographic information system, harbor logistics, radio frequency identification, video recognition