

基於AIoT技術的庫存審計與保安監控自主移動機器人系統

An AIoT-based Inventory Auditing and Surveillance Autonomous Mobile Robot (AMR) System

兼具保安監控功能的高效自動庫存審核工具

An advanced tool for highly efficient automated inventory audit with added mobile surveillance function

庫存管理對於供應鏈的操作極為重要，是優化業務運作和客戶體驗的關鍵。理大與業界夥伴合作，以人工智能物聯網技術為基礎，研發出一套適用於庫存審計和保安監控的自主移動機器人系統。此系統配備多項卓越的功能元件和技術，包括用於產品感測和自動庫存審核的無線射頻識別傳感器；用於環境掃描和定位的光學雷達式即時定位與地圖構建技術；以及用於對象檢測和移動監視應用的視覺組件。此系統可提高庫存管理的準確性和效率，對於重視庫存管理的物流業及零售服務業尤其實用。



自主移動機器人
Autonomous Mobile Robot



基於AIoT技術的庫存審計和自主移動機器人監控系統概念圖
Conceptual diagram of the AIoT-based Inventory Auditing and Surveillance Autonomous Mobile Robot System

Inventory management is critical to supply chain operations. Good inventory management optimises business operation efficiency and customer experiences. We have collaborated with an industrial partner to develop an Inventory Auditing and Surveillance Autonomous Mobile Robot (AMR) System based on artificial intelligence of things (AIoT). The AMR system is equipped with RFID sensors for identifying assets during inventory audits. It is also integrated with LiDAR-based Simultaneous Localisation and Mapping for environmental scanning and localisation, and computer vision components for object detection and mobile surveillance applications. It is particularly helpful for the logistics and retail industries where accurate and efficient inventory management is essential.

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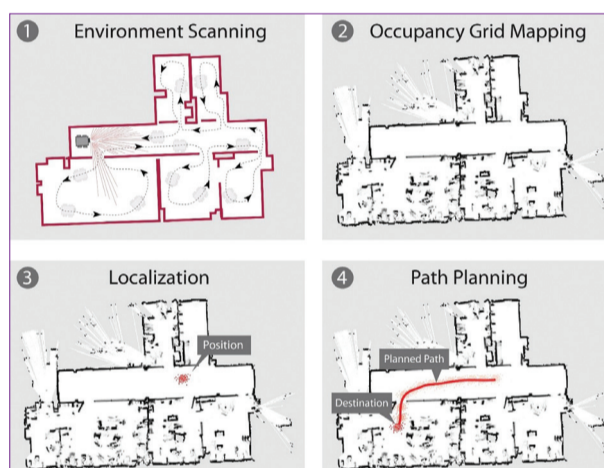
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特色與優點

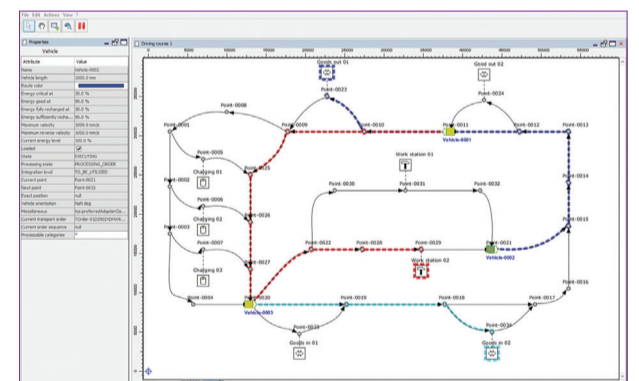
- 同步定位與地圖構建技術
- 車隊管理系統
- 自動庫存審核
- 移動式監控

應用

- 自動化倉庫庫存審核
- 於零售商店的庫存盤點
- 於工廠的在製品庫存檢查
- 於物業的移動式監控



自主移動機器人的定位、地圖構建及路線規劃功能
Localisation, mapping and path planning functions of AMR



車隊管理系統
Fleet management system

Special Features and Advantages

- Simultaneous Localisation and Mapping (SLAM) technology
- Fleet management system
- Automated inventory auditing
- Mobile surveillance

Applications

- Inventory auditing in warehouses
- Stocktaking in retail stores
- Work-in-progress (WIP) checking in factories
- Mobile surveillance in properties

Access More info via mobile



QR code subject to status changes by technical operations