



Artificial Intelligence and Manufacturing in Datalogic

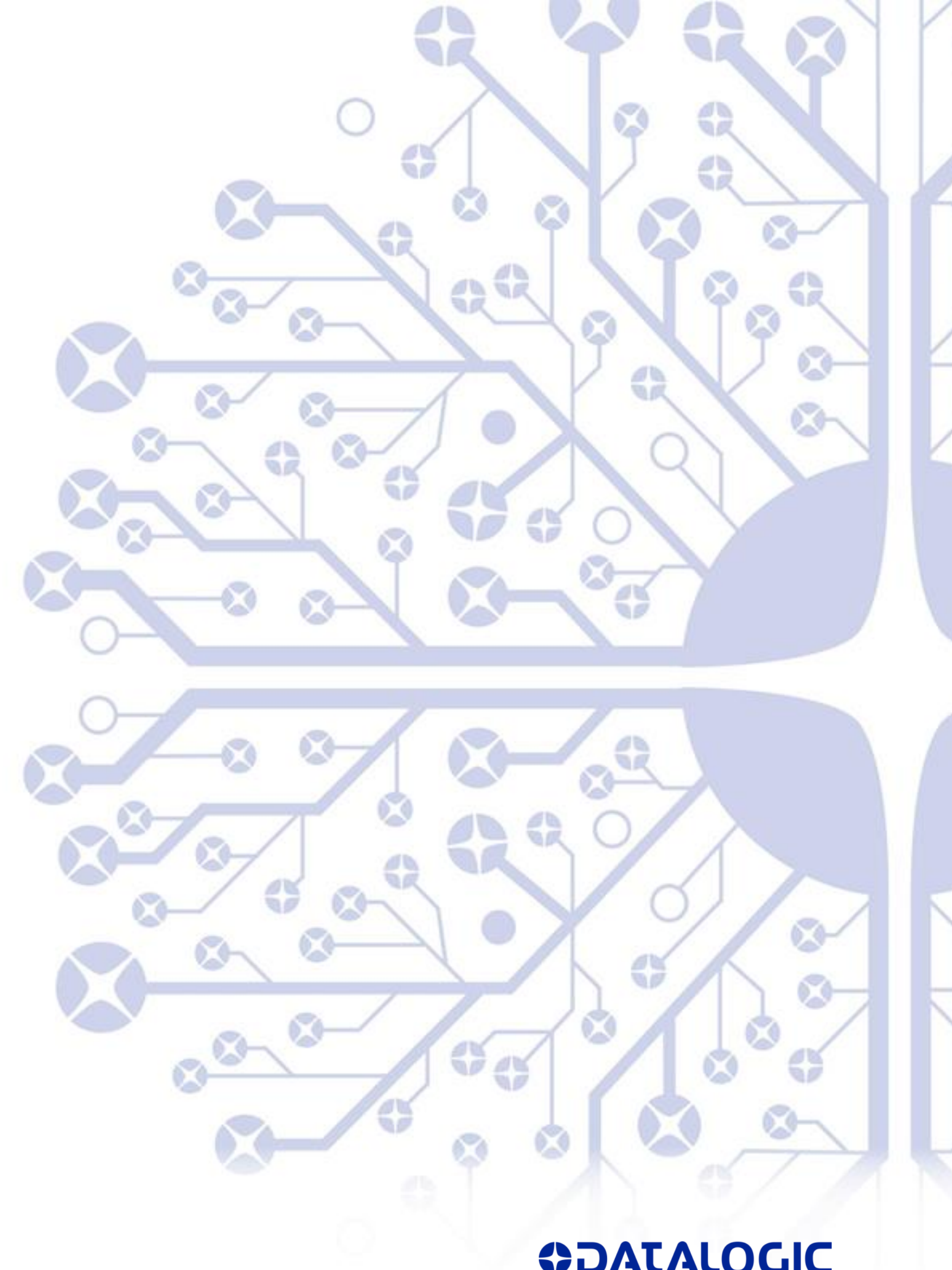
**MARZO 2019,
ROMA**

Federica Albertini

DATALOGIC
EMPOWER YOUR VISION

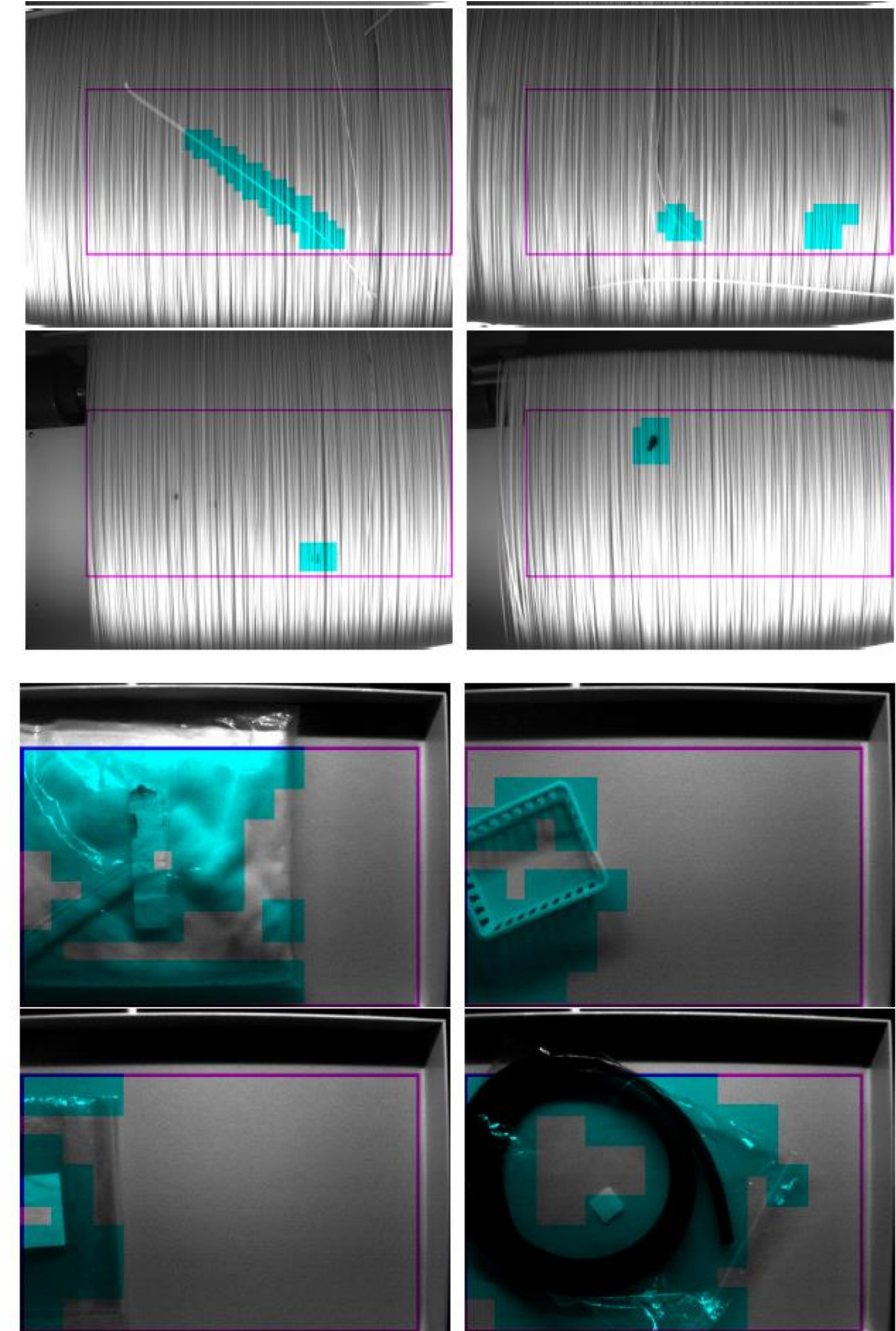
Progetti

- **AIDA: Automazione Industriale a Dattativa** attraverso sistemi di visione cyber-fisici
 - Aesthetic Flaw Detection
 - Empty Tray
 - Pattern recognition and localization
- **OCR**



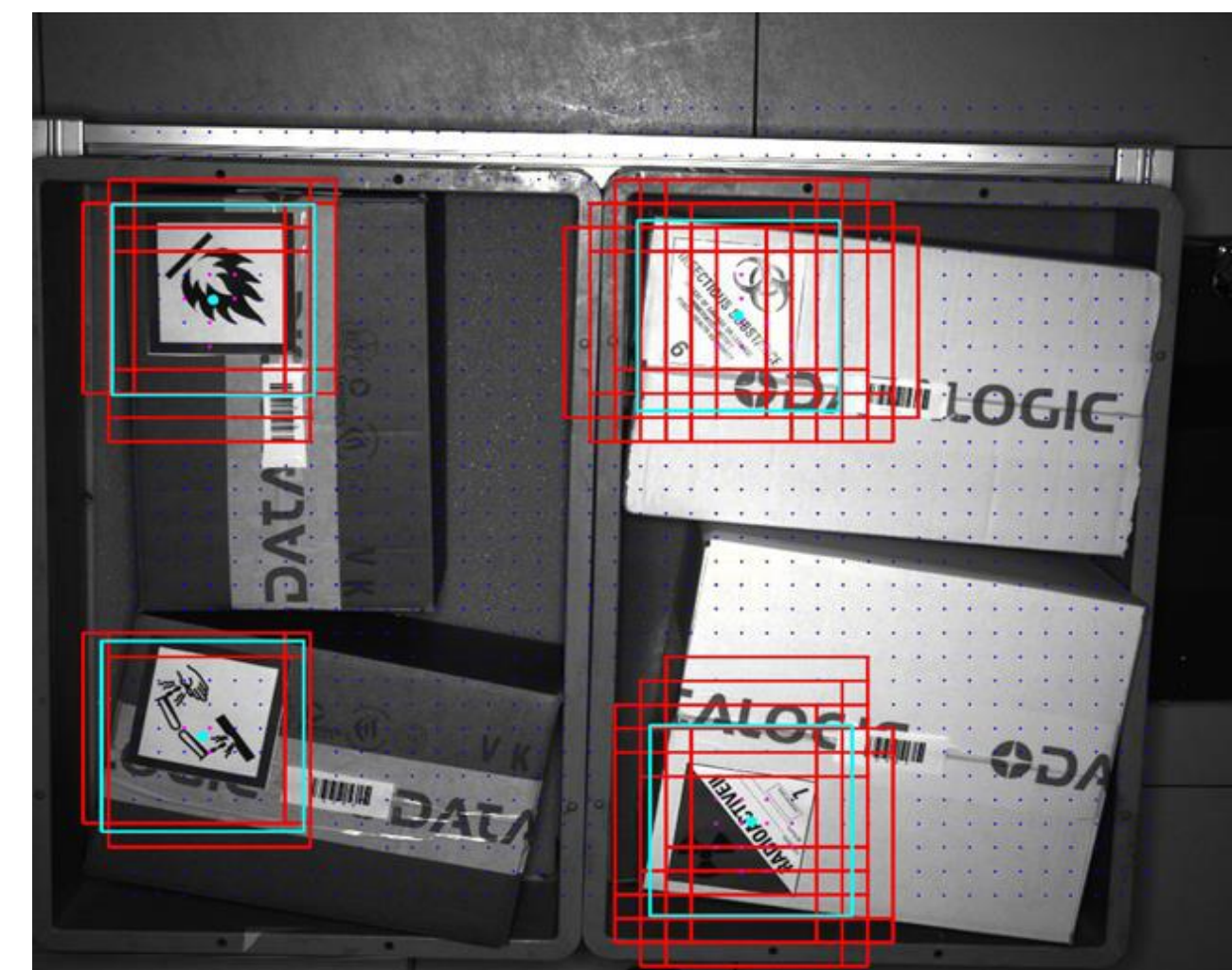
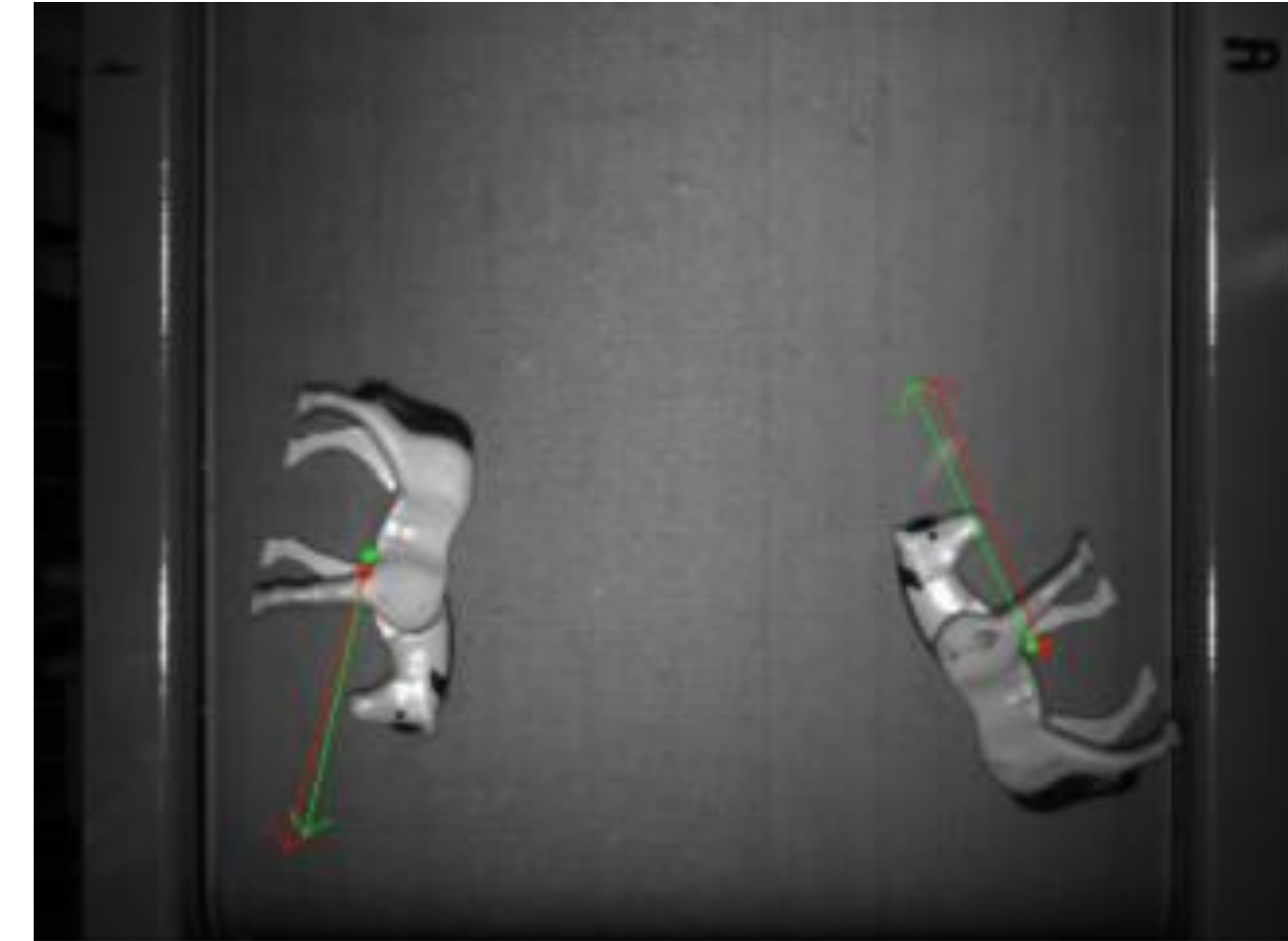
AIDA: Aesthetic Flaw Detection & Empty Tray

- Obiettivi:
 - Rilevamento di difetti e imperfezioni durante il processo produttivo
 - Rilevamento presenza/assenza oggetti
- Tecnica:
 - Multilayer autoencoders
- Criticità:
 - Variabilità di illuminazione
 - Dataset non sufficientemente popolati



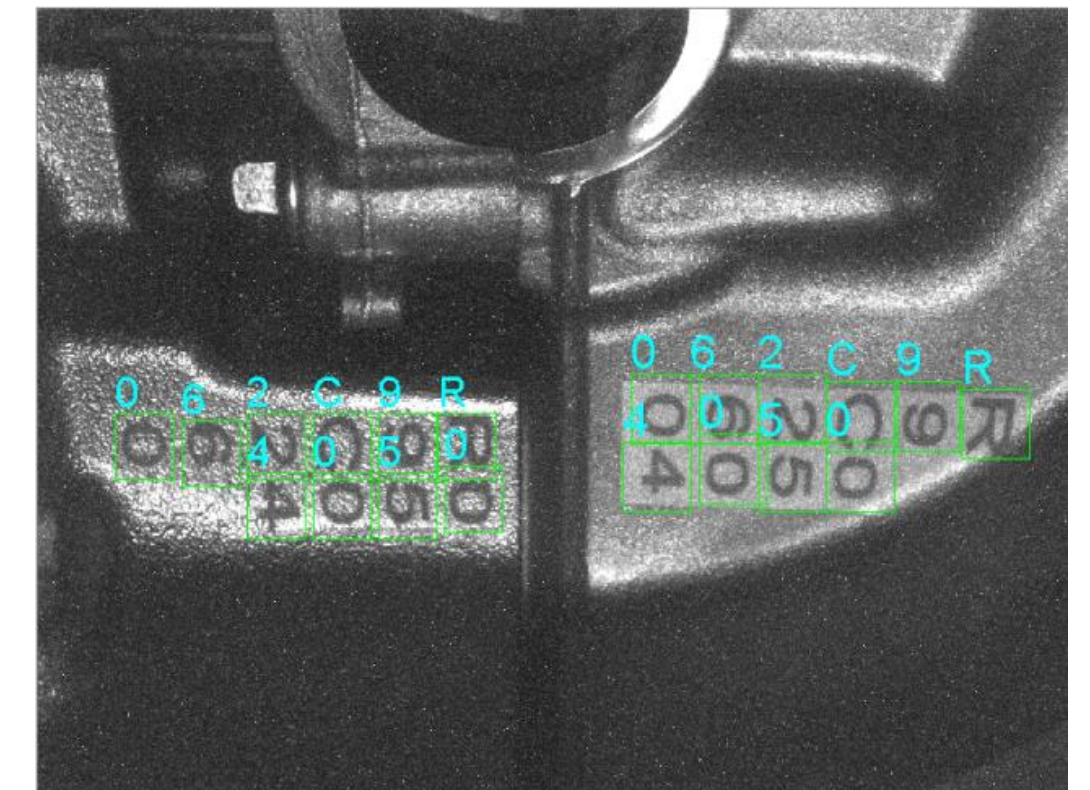
AIDA: Pattern recognition and localization

- Obiettivi:
 - Riconoscimento e detection di pattern
 - Regressione dell'orientamento
- Tecnica:
 - Combinazione di moduli di apprendimento (CNN) e classificazione (clustering)
- Criticità:
 - Gestione di scale differenti
 - Annotazione manuale dettagliata



OCR: Optical Character Recognition

- Obiettivi:
 - Lettura veloce ed accurata con gestione di molteplici font e alfabeti
 - Training font e spaziatura con un'unica immagine
- Tecnica:
 - Estrazione di features ed ingegnerizzazione di algoritmi di recognition, fielding e verification
- Criticità:
 - Deterioramento stampa
 - Sfondi rumorosi e riflettenti
 - Variabilità luminosità e contrasto



Thank you

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