Accella AI

Use Case

Quality Control -Wood Surface Inspection

CUSTOMER: Leading European Construction Company

NEED

- Detect wooden boards with imperfections, e.g. knots, splits, cracks
- Score quality of boards
- Easily differentiate boards between A, B and scrap categories

OUTCOMES

- Every board automatically receives a defect score
- Scoring allows customer to bin boards into different quality categories for different uses
- Reduces scrap
- Assures only highest quality boards are used for critical applications, e.g. construction of dams
- Reduces manual QC

CHALLENGES

- Customer needs an automated way of inspecting wooden boards to eliminate ones that might have structural weaknesses
- Defects can be hard to spot with traditional machine vision solutions due to the heterogeneity of the wood and challenging illumination
- Elimination of time- and resource consuming manual inspection

SOLUTION

- A machine learning (ML) algorithm is trained to recognize the wooden boards
- The ML algorithm assigns a defect score to each board, the higher the score the worse the quality of the board
- A cut-off defect score is defined by the customer and boards that do not meet the requirement are used in less demanding applications or discarded

PROCESS

- Internal experts provide images of OK vs NOK wooden boards
- The ML algorithms is trained based on these samples to assign a defect score to each board

Defect score	364	380	585	616	740
OK/NOK for Category A	OK	OK	OK	NOK	NOK

Contact

Accella AI

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FREMONT SOLUTIONS GROUP

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