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/ CASE STUDY /

FORWOOD

ANALYSE CRITICAL CONTROLS TO IMPROVE OPERATIONAL EFFICIENCY

INFOREADY AND FORWOOD TEAMED UP TO BUILD A PROTOTYPE MACHINE LEARNING ALGORITHM THAT IDENTIFIES 'HOT SPOTS' AND PREDICTS CRITICAL CONTROL FAILURES

ABOUT FORWOOD

Forwood is a cutting edge software and consulting company that specializes in operational risk management tools for high risk industries. Forwood's Flagship Product; the Critical Risk Management (CRM) System changes the way safety is managed in the workplace. This product has been successfully implemented in some of the largest high risk operations in the world. Early adopters of the system have entered their 7th year fatality free.

THE CHALLENGE

Forwood's Flagship Product; the Critical Risk Management (CRM) System changes the way safety is managed in the workplace. This product has been successfully implemented in some of the largest high risk operations in the world. Early adopters of the system have entered their 7th year fatality free

As an integral part of the CRM system Forwood has developed a series of online checklists that employees and contractors complete daily to ensure critical controls are in place and robust. A Critical Control Verification is designed to 'block the path to death or serious harm'. These Checklists have been written based on thousands of lives lost in the workplace and they have been established as a global benchmark in fatality prevention.

Due to the number of checklists being filled out every day, it can be difficult for managers to identify which areas of the site are experiencing the most failed verifications, resulting in a lack of clarity around which issues to address first. Forwood wanted to automate the prediction of where the next control failures could occur, and they engaged Infoready to assist in the analysis of critical control in order to help managers determine where to focus their efforts.

THE SOLUTION

Infoready and Forwood teamed up to build a prototype machine learning algorithm that identifies 'hot spots' and predicts critical control failures on any given day. The algorithm is used by Managers to direct their efforts to reduce the risk of incidents and minimise downtime. The algorithm uses data extracted from the checklists to generate a compliance 'score' that takes into account recent actions. Using this data, managers are able to see instances where certain areas of the site have failed multiple times over a given period, which allows them to prioritise actions to mitigate recurring risks.

In addition to displaying data in a web app, Forwood wanted to develop an interactive way for managers to access this information. Infoready and Forwood decided to implement this using a chatbot accessible via an Amazon Echo. The Echo experience allows managers to get an immediate answer to their questions about non-compliance hotspots, where previously they had to run multiple reports to access this information. The solution also uses machine learning to review the historical data for patterns and predict future critical control failures.

THE OUTCOME

By using non-compliance data to predict critical risks in advance, managers are able to prevent disruptions to work, improve operational efficiency, maintain appropriate levels of workplace health and safety and save lives.

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