pixolution

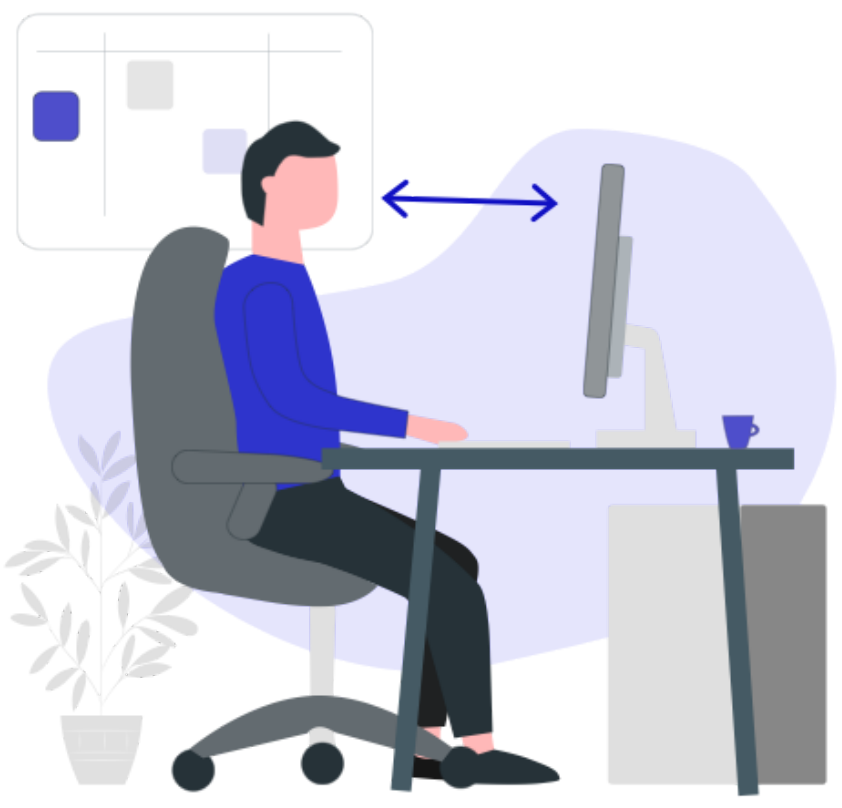
DATANOMIQ
Applied Data Science

2nd part of our infographic series

How Deep Learning drives businesses forward through automation.

How to ensure occupational safety through automatic risk detection

Accident insurance is offering a mobile app that can be used to check office workplaces for potential occupational safety risks. Customers of the insurer can take photos of their workplaces and then receive a **risk assessment and recommendations** on how **to make the workplace safer**.



Challenge

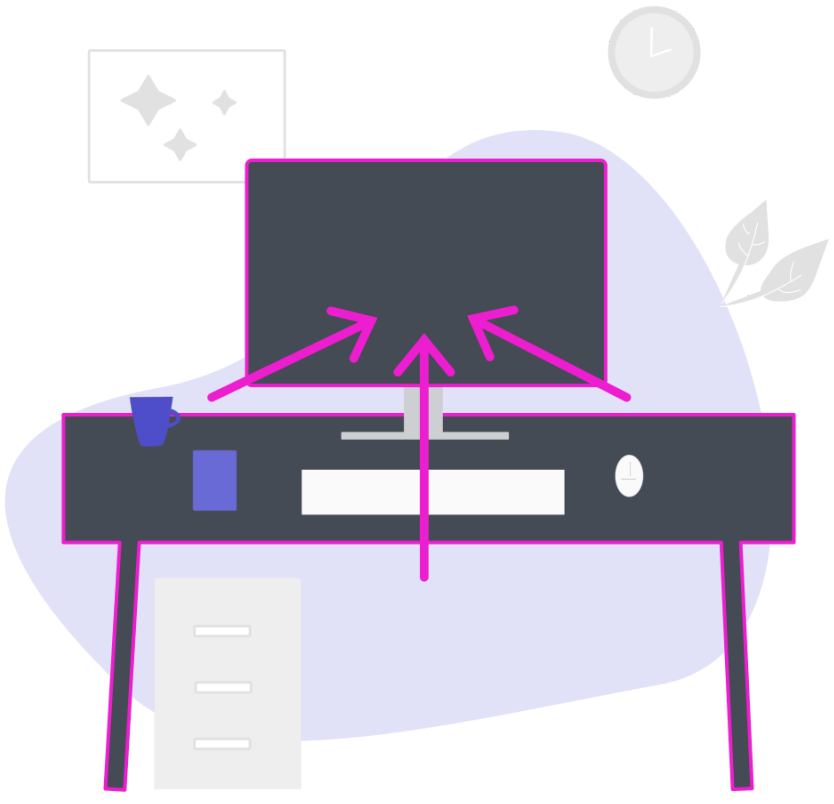
The challenge is to **recognize and analyze the condition of a workplace** based on the photos taken. Then a comparison must be made with the condition stored in the app, which specifies the legal requirements for occupational safety.

For example, whether the screen on the desk is positioned at the correct distance from the viewer.

Model Training

We train specific models for individual aspects of the workplace. For example, one classification model **recognizes whether a screen is present** in the photo and determines its position in the room. Another model **recognizes** and **locates the desk**.

When a photo is taken with the app, **each model analyzes its own aspects**. The results are then logically merged and combined.



Analyze relationships

In the next step, the **spatial relationship between objects** like screen and desk are analyzed. Then, the **required condition** stored in the app is **compared with the analyzed state in the photos**.

The app uses this as a basis for recommendations, such as how the screen should be positioned to enable a healthy way of working.

Benefits

The app provides a **reliable assessment and action guide for occupational safety**. The complex topic of occupational safety thus becomes easier to implement for customers. This leads to **cost reductions** for companies **by avoiding health problems** (e.g. posture problems) and sickness-related absences from work.

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