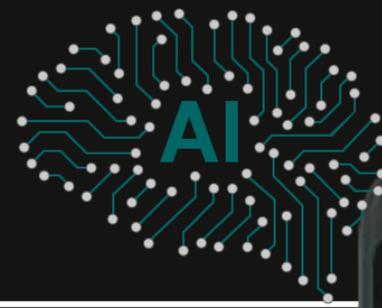
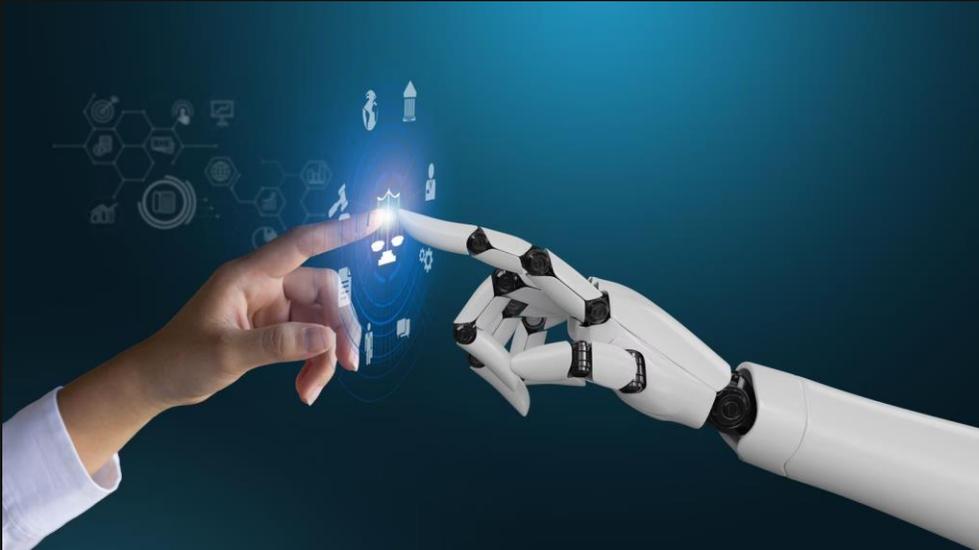


# Artificial Intelligence



November 2024





**Connect:**  
Karl Simons OBE

# Karl Simons OBE

*Chief Futurist, FYLD AI*

*Advisor to the Prime Ministers Cabinet Office, UK Government*

- Co-Founder & Chief Futurist at the AI technology organisation FYLD
- Advisor to the Cabinet Office & Dept. Science & Technology on AI & Digitalisation
- Advisor to the British Government on matters of Occupational Safety & Health
- Lecturer on AI at The University of Cambridge, UK; HBS Digital Strategy at Harvard, USA
- Non-Exec Director on the Main Board of Water & Sanitation for the Urban Poor
- Chairman of the Editorial Board, SHP Informa; Mechanical & Electrical Engineer;
- Fellow Windsor Castle Society of Leadership; Hon. Fellow at the Institute of Analytics;
- Chartered Member of the Institute of Occupational Safety & Health
- 35 years experience includes: Domestic & International Work in the sectors of Defence, Oil & Gas, Highways, Construction, Rail, Roads, Energy & Utilities. Experienced in complex technology transformation for major corporates & delivery of major physical infrastructure programmes.

**Awarded an OBE by HM Queen Elizabeth II upon  
recommendation from the British Prime Minister in 2020**

Advisor to the British Government



Shell Malampaya Gas Rig - Philippines Ocean

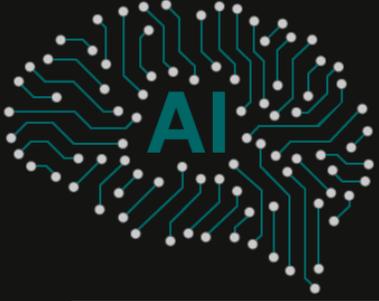




F Y L D

**Artificial  
Intelligence...**





# Artificial Intelligence

machine imitating Intelligent behaviour



## Natural Language Processing

“What is Said”

Natural language processing (NLP) refers to the branch of computer science AI that provides computers the ability to understand text and spoken words in much the same way human beings can...

## Imagery Analysis

“What is Seen”

Imagery analysis involves processing an image into fundamental components to extract meaningful information. It includes finding shapes, detecting edges, removing noise, counting objects...

## Reasoning Engine

“What is known”

The capability of a machine to imitate intelligent human behaviour. Artificial intelligence systems are used to perform complex tasks in a way that is similar to how humans solve problems..

## Smart Solutions

User Experience – UX

The journey through the product



User interface – UI

The visual interface elements



Software Engineer

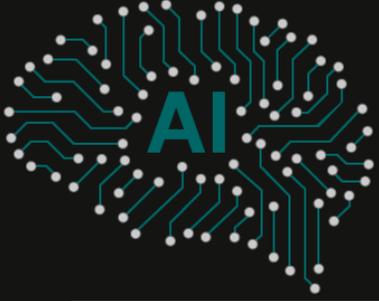
Develops the Build / Code



Big Data Analysts

insights driving actions





# Natural Language Processing “What is Said”



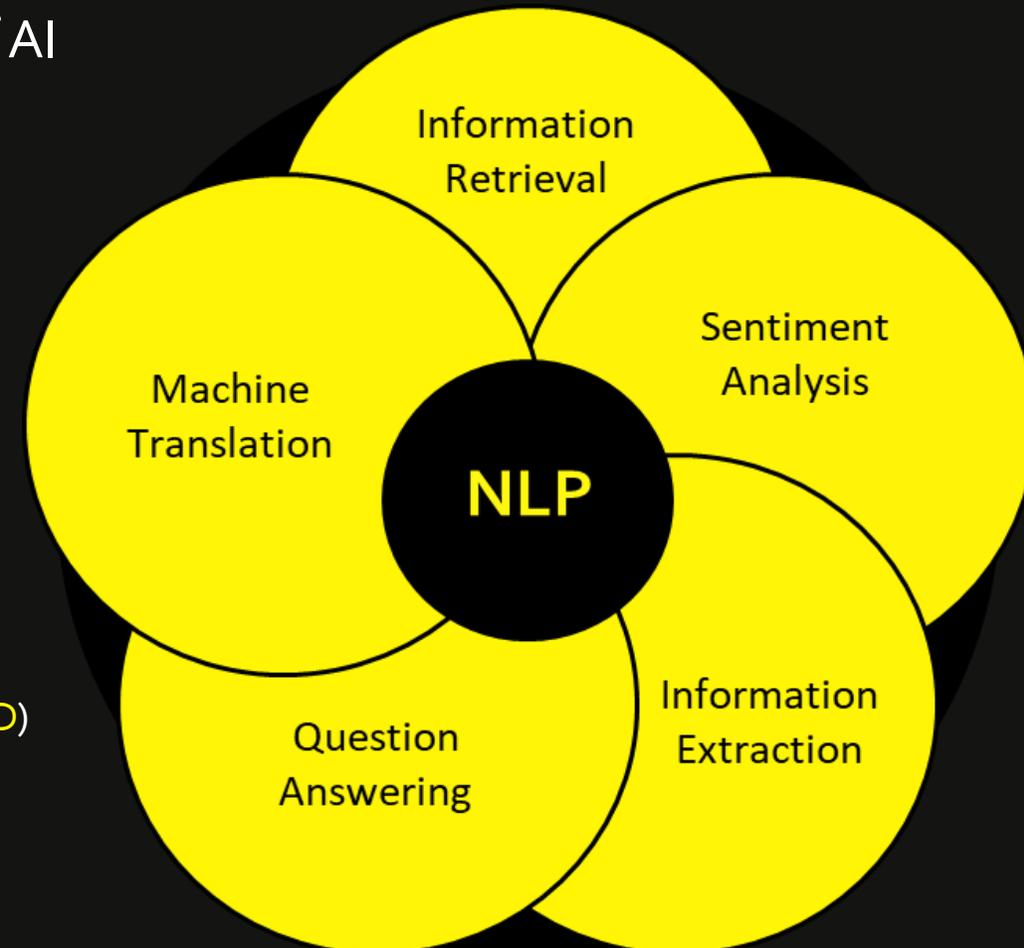
- **Natural Language Processing (NLP)** refers to a branch of AI that focuses on the interaction between **humans and computers** through **language**
- It enables computers to **understand, interpret and generate** human language by analysing **text data**

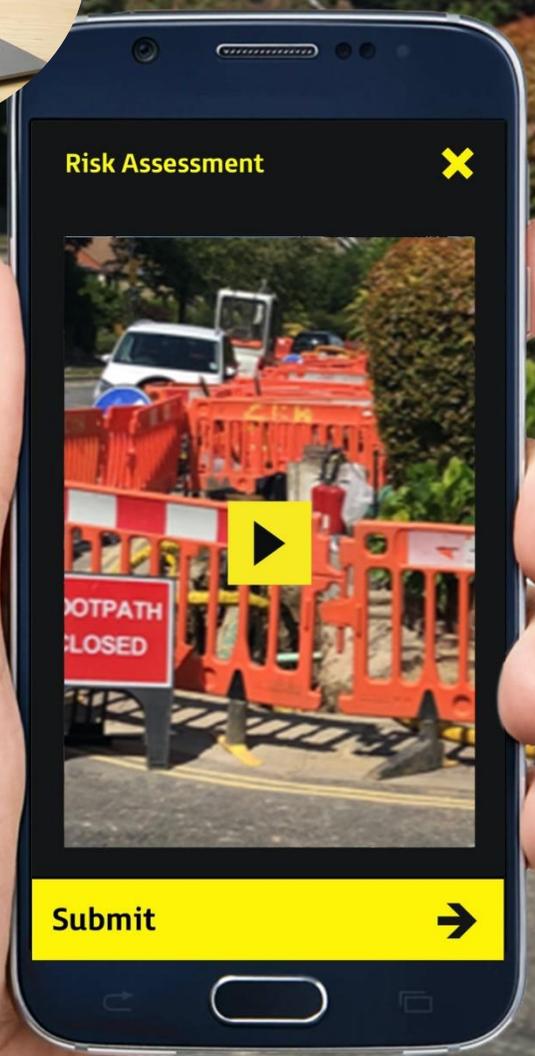
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## Examples

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- Siri (**Apple**)
- Alexa (**Amazon**)
- Language Translation (**Google**)
- Chatbot (**ChatGPT**)
- Vocal Transcription Mapping (**FYLD**)
- Tagging Photos (**Instagram**)
- Personalised playlist (**Spotify**)
- Voice-to-text (**Messenger**)





# Feature Spotlight: Safety

## AI Risk Assessment

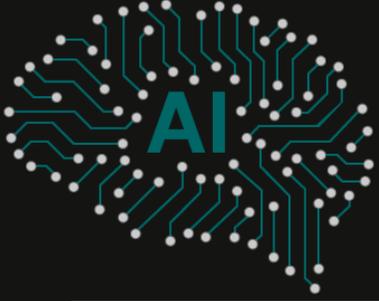
AI Risk Assessment is built on AI driven analytics of a short 1-2 minute video site survey field workers take on their mobile phone at the start of their shift. They talk about the site conditions, including hazards, and their work for the day.

### Productivity Benefits

- Instant Eyes-on-site – ready to coach teams and offer advice
- Time back on the tools – save 15 minutes per assessment
- Prioritise effectively – know which sites need your support

### Safety Benefits

- Improved risk perceptions - Teams out of the welfare units and vans, engaging with risks on-site
- AI supported risk assessment finds hazards that teams miss
- Confidence in compliance that Risk Assessments are being undertaken and Quality is suitable



# Image Analysis "What is Seen"



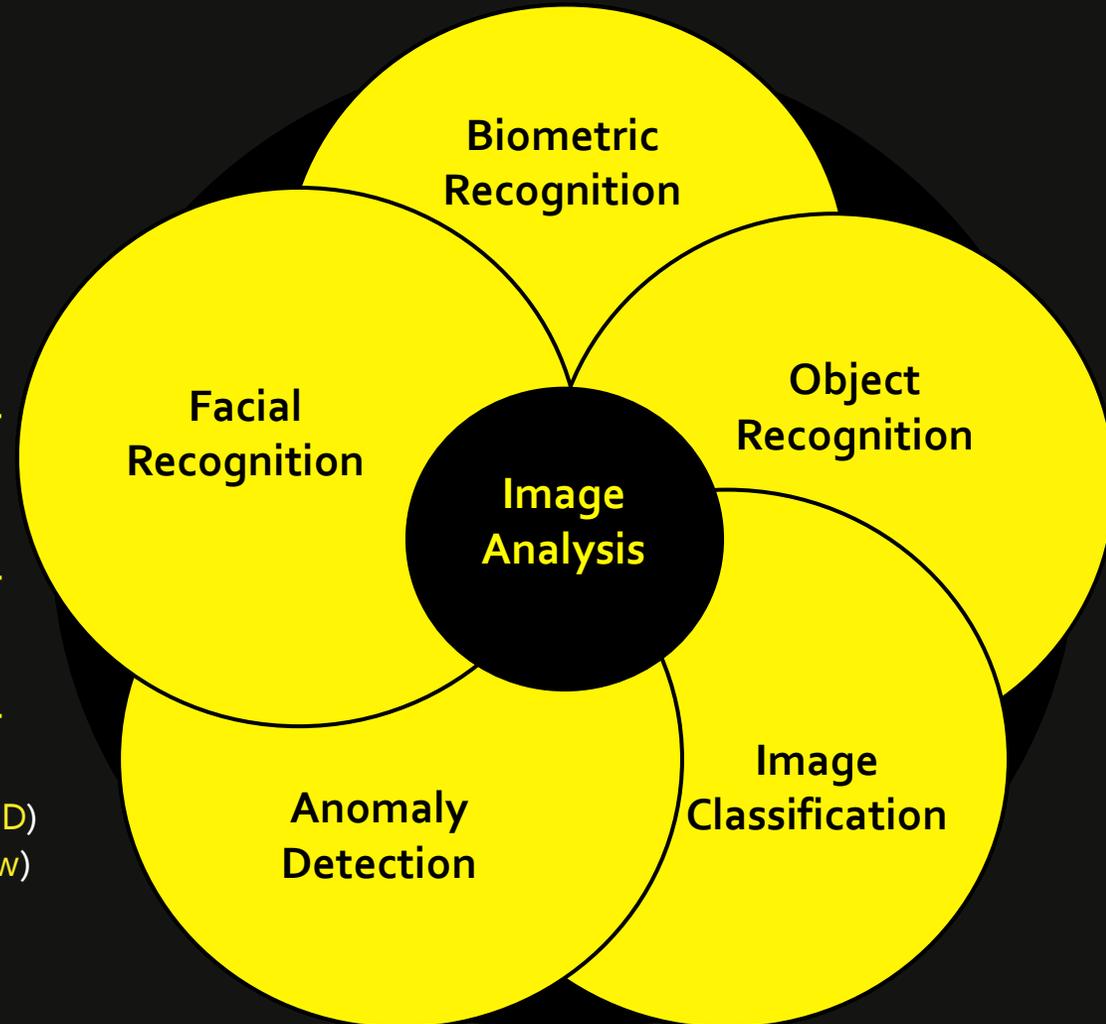
- **Image Recognition (IR)** that focuses on the interaction between humans and computers through **visual information**
- It allows computers to **understand, interpret, and generate** insights from visual data by **analysing images or videos**.

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## Examples

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- Visual Search (**Google**)
- Facial Recognition (**Apple**)
- Scene Recognition (**Tesla**)
- Augmented Reality (**Snapchat**)
- Object Identification & Mapping (**FYLD**)
- Virtual Assistants (**Amazon Echo Show**)
- Image Classification (**Pinterest**)
- Medical Imaging (**GE Healthcare**)





# Feature Spotlight: Safety

## AI Risk Assessment

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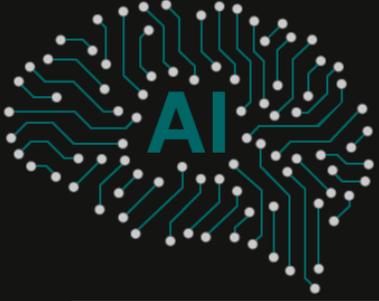
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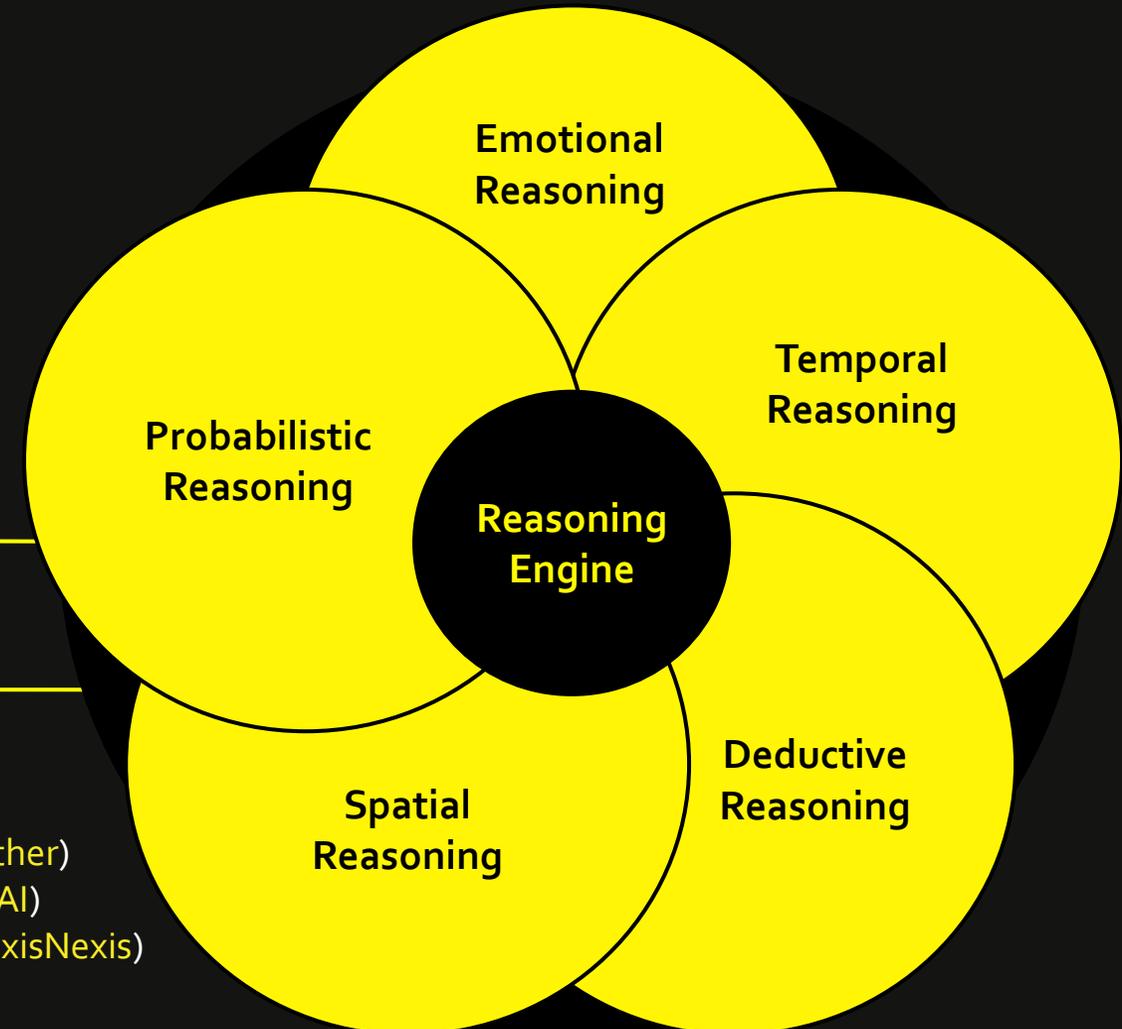
# Reasoning Engine "What is Known"



- Reasoning Engines (RE) focus on the interaction between humans and computers through logical inference and decision-making processes.
- They enable computers to understand, analyse, and draw conclusions from information by applying logical rules, knowledge, and inference mechanisms.

## Examples

- Recommendation System (Netflix)
- Expert Systems (NASA)
- Fraud Detection (PayPal)
- Asset Management and Trading (Goldman Sachs)
- Predictive Risk System (FYLD)
- Weather Forecasting (Accuweather)
- Automated Reasoning (Google AI)
- Legal Research and Analysis (LexisNexis)



# Using Unstructured & Structured Data

