

Explainable AI

WHAT DECISIONS CAN YOU TRUST?

Artificial Intelligence, Real Responsibility

AI is playing an expanding role in industries with high value assets and great human impact such as energy, finance, and healthcare. In these high-risk industries, AI systems need to explain the reasoning behind their recommendations. Artificial Intelligence must be smart enough to explain how it thinks so you can make more informed and accurate decisions. Enterprises are increasingly demanding explainable AI.



Visible

Explainable AI delivers insight into the reasoning and showing evidence, risk, and confidence.



Understandable

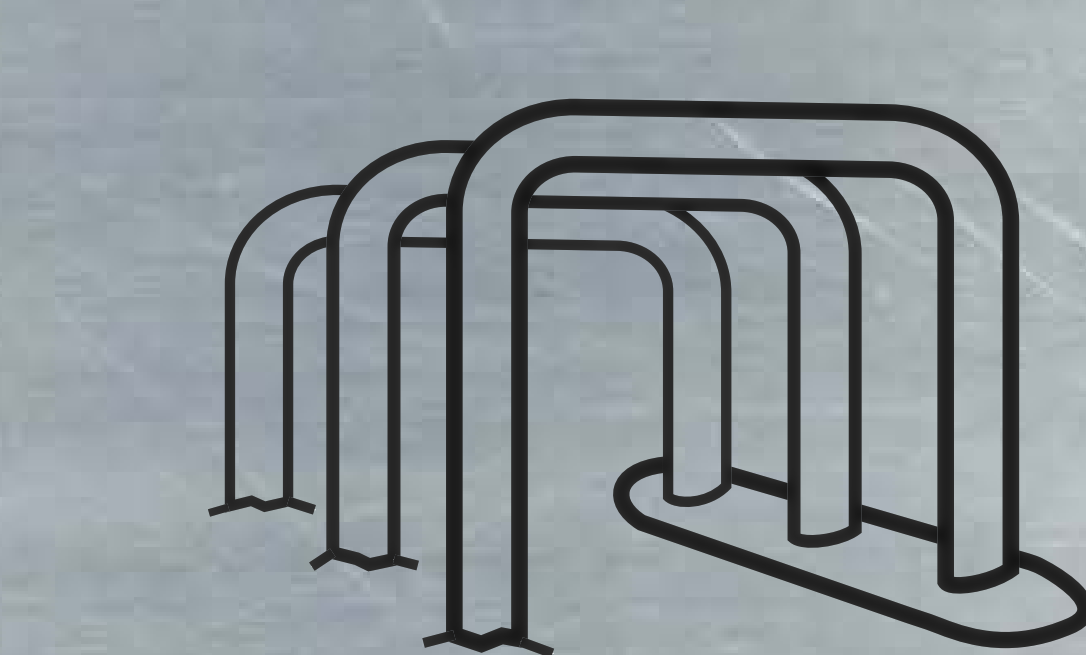
Explainable AI evidence-based recommendations are designed in clear, natural language.



Teachable

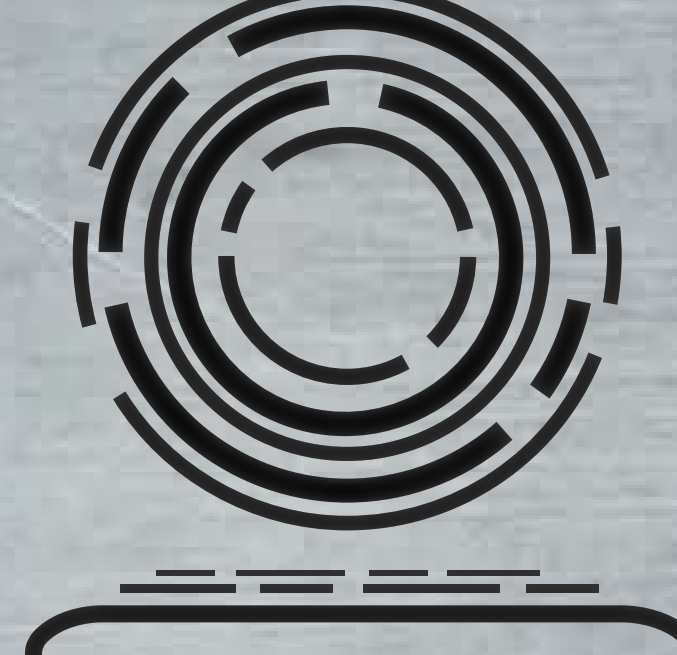
Explainable AI can query the system and is designed to be trainable and learn on the fly, autonomously.

The Anatomy of XAI



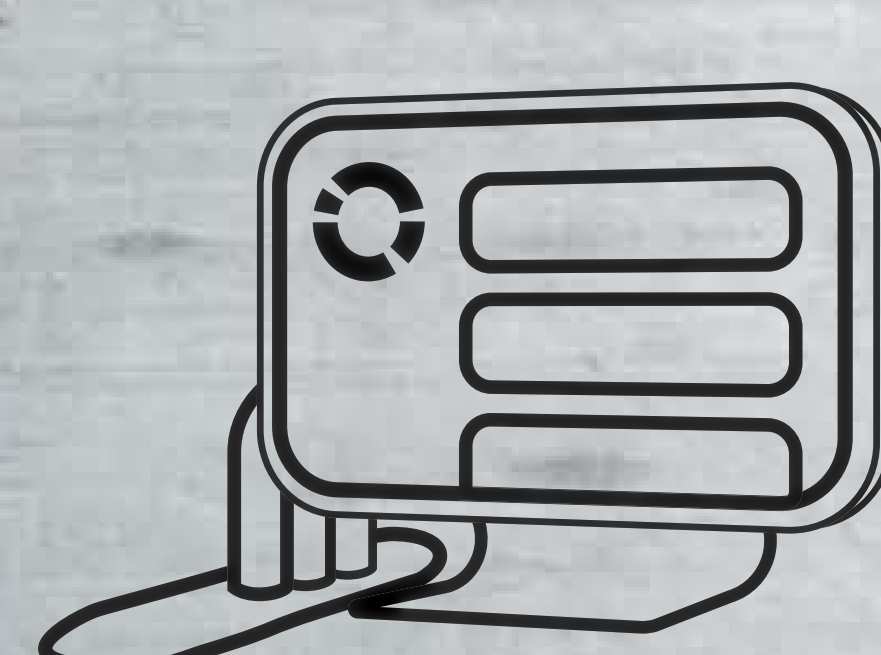
Data Harvesting

Historical, real-time, sensor, and performance data is gathered and flows into the engine.



Artificial Intelligence Engine

The engine processes data and is further educated and trained from the knowledge base and user inputs.



Interface

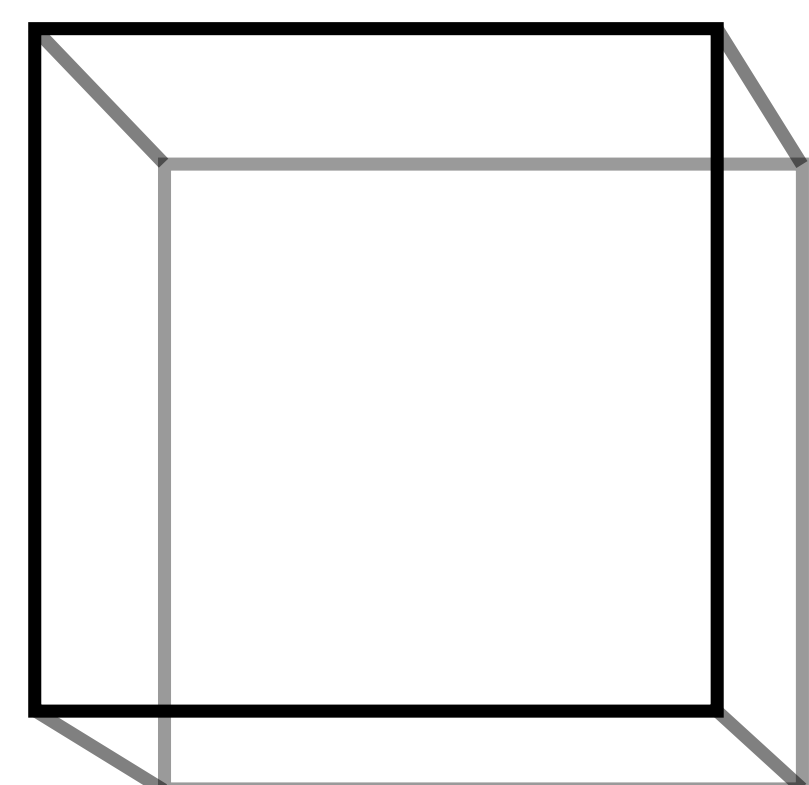
Recommendations and an evidence-based audit trail is provided to the user.

Complex Systems Need Detailed Answers



Black Box AI

Black box AI is the conventional approach to AI such as machine learning, deep learning, and neural networks that cannot explain how they arrive at their conclusions.



Glass Box AI

Glass Box AI is a result of cognitive AI which delivers clear explanations for its recommendations with reasoning and evidence, including risk, confidence, and uncertainty.

When "black box" AI systems produce an answer, they can't tell the human end-user how or why they reach their recommendations. In simple terms, they can't explain their reasoning. In high-risk/high-value industries, an explanation of the underlying reasoning is critical for decision makers. To make better decisions, your AI system must be smart enough to explain how it thinks.

Explainable AI works to solve large-scale problems in the world's most demanding industries. A refinery is a complex system of systems that encompass hundreds of people and acres of equipment working constantly. Maintaining coordination across these tightly interconnected systems can be extremely challenging. Explore how explainable AI can help manage these problems and requirements.



IMPROVED COMMUNICATION

Communicates with all stakeholders to ensure that everyone has a global perspective on the impact of their actions.

REDUCED DOWNTIME

Predict equipment repairs and failures to reduce planned downtime and prevent unplanned downtime.

24/7 REPORTING

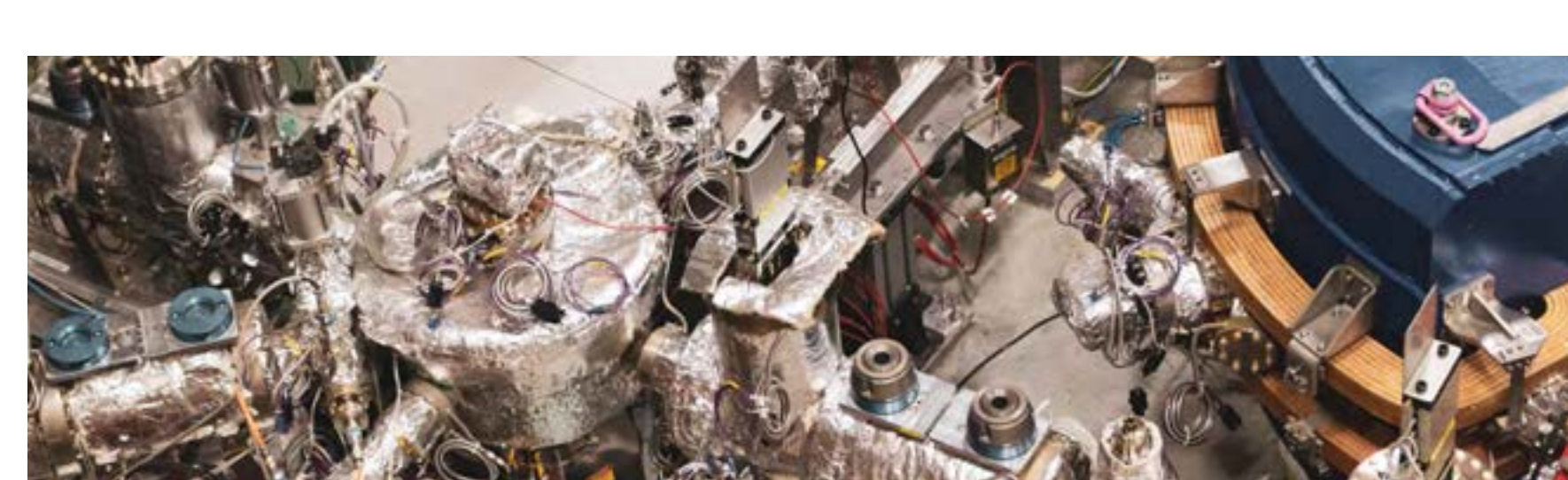
Reports results to refinery engineers in real-time using historical data, real-time sensor data, and human knowledge.

Explainable AI for Demanding Industries



Energy & Natural Resources

Explainable AI can help solve mission-critical issues for the entire energy value chain, including cognitive exploration, reservoir and refinery management, well health, and power generation.



Industrial IoT

Explainable AI help solve challenges in industrial IoT such as continuous flow manufacturing, factory operations, diagnostic and prognostic, situational awareness, automotive safety.



Healthcare

Healthcare can benefit from explainable AI by assisting in clinical decision support, cognitive patient monitoring, population health management, and revenue cycle management.



Finance

Financial institutions of any size can utilize explainable AI to optimize processes of commodity trading, propensity scoring, credit and lending, risk assessment, investment management.

The Human Perspective

Explainable AI creates a collaboration between human and machine to help magnify as well as amplify the human talent. It will serve as a transparent partner that will complement and support them to make more informed, consistent, and accurate decisions. By working together, people and AI can make better decisions by enhancing each other's complementary strengths.

BEYOND LIMITS

Beyond Limits is a full-stack Artificial Intelligence engineering company creating advanced software solutions that go beyond conventional AI. Beyond Limits solves tough, complex, mission-critical business problems for industries that matter. Beyond Limits cognitive AI technology goes beyond conventional AI and is always "explainable". Our systems utilize a hybrid of conventional numeric and higher order symbolic AI techniques to deliver cognitive reasoning and intelligence that emulates human intuition.

> [Learn About Explainable AI and Cognitive AI at](#)

> www.beyond.ai