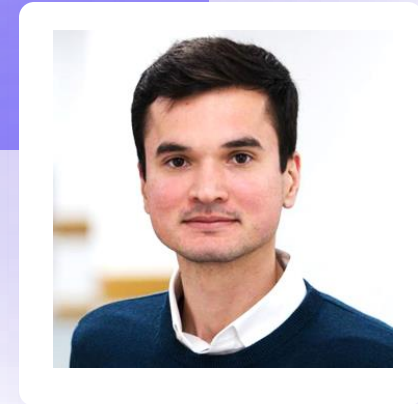
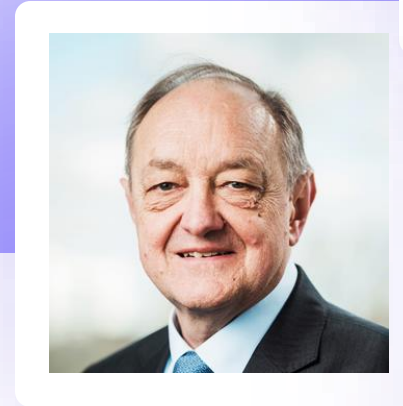
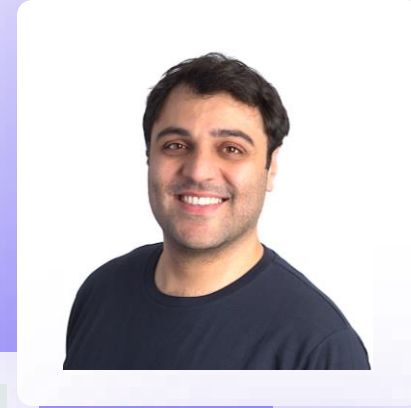


**Background**

# UCL

- UCL Computer Science
  - National AI Certification Service
  - AI Audit and Assurance
  - Piloting
- Publications
  - [Towards Algorithm Auditing](#)
  - [AI Standards \[...\] Through Experimentation](#)
  - [AI Audit in Financial Services & Recruitment](#)
  - Etc..
- Collaborations



The  
Alan Turing  
Institute



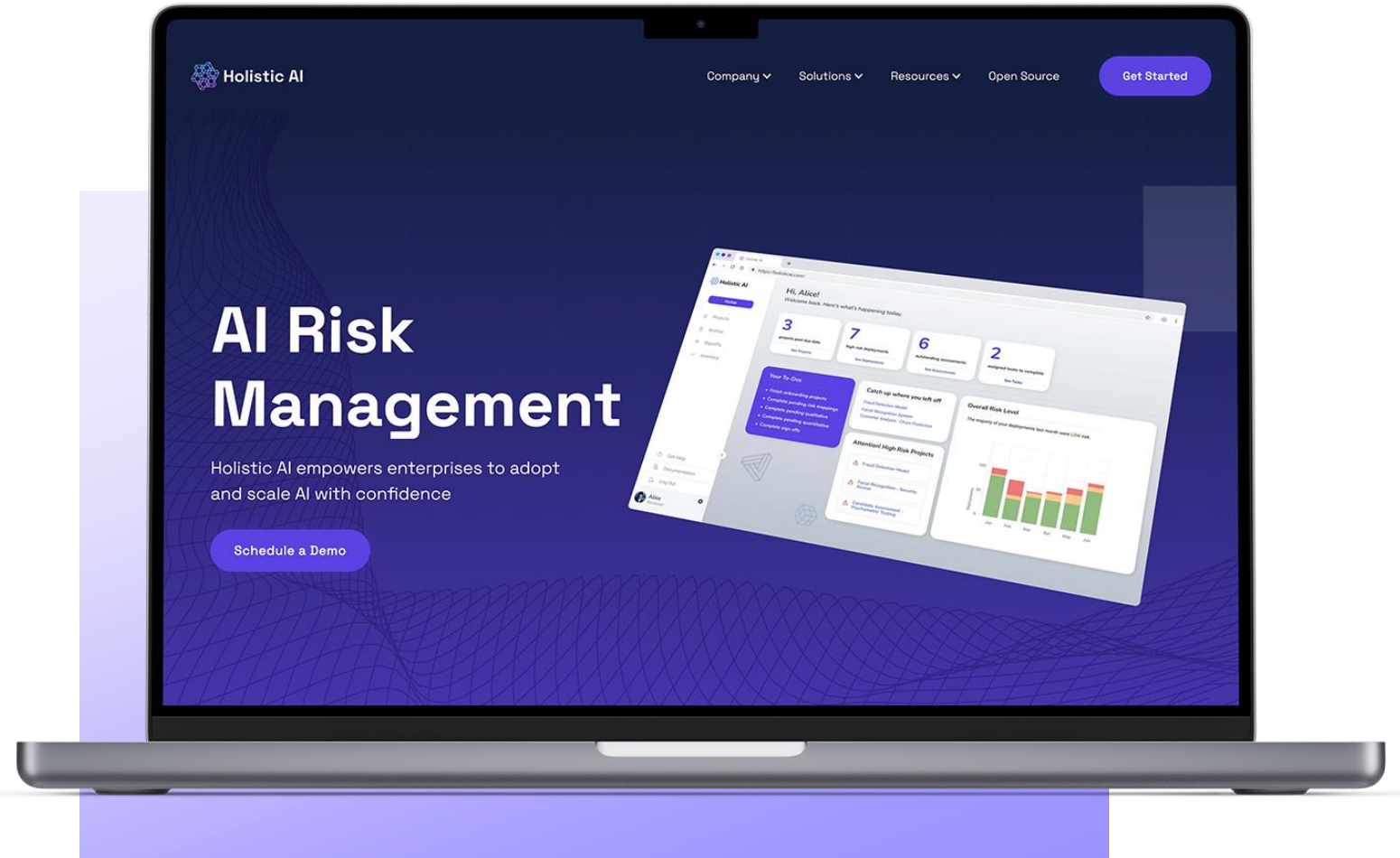
ico.  
Information Commissioner's Office



OECD.AI  
Policy Observatory



# Holistic AI



# From Harm to Regulation



# Harm

- High profile harm
- Moral Panic?
  - Opportunity vs harms

## Knight Capital Says Trading Glitch Cost It \$440 Million

BY NATHANIEL POPPER AUGUST 2, 2012 9:07 AM 356

Runaway Trades Spread Turmoil Across Wall St.



<b>VERNON PRATER</b> Prior Offenses 2 armed robberies, 1 attempted armed robbery Subsequent Offenses 1 grand theft <b>LOW RISK 3</b>	<b>BRISHA BORDEN</b> Prior Offenses 4 juvenile misdemeanors Subsequent Offenses None <b>HIGH RISK 8</b>
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<b>DYLAN FUGETT</b> <b>LOW RISK 3</b>	<b>BERNARD PARKER</b> <b>HIGH RISK 10</b>
--	--

<b>JAMES RIVELLI</b> <b>LOW RISK 3</b>	<b>ROBERT CANNON</b> <b>MEDIUM RISK 6</b>
---	--

<b>JAMES RIVELLI</b> Prior Offenses 1 domestic violence, aggravated assault, 1 grand theft, 1 petty theft, 1 drug trafficking Subsequent Offenses 1 grand theft <b>LOW RISK 3</b>	<b>ROBERT CANNON</b> Prior Offense 1 petty theft Subsequent Offenses None <b>MEDIUM RISK 6</b>
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# Demand for Action

- 100+ Statements of Ethics
- Significant activity

Story >

## UNESCO adopts first global standard on the ethics of artificial intelligence

In November 2021, the 193 Member States at UNESCO's General Conference adopted the Recommendation on the Ethics of Artificial Intelligence, the very first global standard-setting instrument on the subject.

RESPONSIBILITIES >

### Artificial Intelligence at Google: Our Principles

Google aspires to create technologies that solve important problems and help people in their daily lives. We are optimistic about the incredible potential for AI and other advanced technologies to empower people, widely benefit current and future generations, and work for the common good.

### BLUEPRINT FOR AN AI BILL OF RIGHTS

MAKING AUTOMATED SYSTEMS WORK FOR THE AMERICAN PEOPLE

OSTP

NIST

Information Technology Laboratory

### AI RISK MANAGEMENT FRAMEWORK



Policy

### Responsible AI Standard

The Microsoft Responsible AI Standard is our internal playbook for responsible AI. It shapes the way in which we create AI systems, by guiding how we design, build, and test them.



# Key Definitions

	Outputs Changes	Role of Humans	Automation	Technology
<b>Information Commissioner's Office</b>	-	-	Fully automated or with human in the loop	Algorithm-based technology
<b>EU AI Act</b>	Content, predictions, recommendations, or decisions	Can provide data and inputs	Elements of autonomy	Machine learning or logic- and knowledge-based approaches
<b>OECD</b>	Predictions, recommendations, or decisions	Define objectives	Varying levels of autonomy	Machine-based system
<b>Canada's Artificial Intelligence and Data Act</b>	Content, decisions, recommendation, or predictions	Human activity provides data	Autonomously or partly autonomously	Technological system that uses a genetic algorithm, neural network, machine learning, or other technique
<b>California's proposed Amendments to employment regulations</b>	Predictions, recommendations, or decisions	Define objectives	-	Machine learning system, where machine learning is an application of AI

Source: Lost in Transl(A)t(I)on: Differing Definitions of AI  
<https://www.holisticai.com/blog/comparing-definitions-of-ai>

# Some Concerns





# Consistent Standards

- **Fundamental Principles**
- **Consistent Taxonomy for AI**
  - Widely accepted / shared
  - Ex. Consistent def. of AI (what falls in scope)
  - Ex. Life-cycle taxonomy
    - pre-dev., dev., deployed, monitoring
- **Generally Accepted Risk Framework**
  - Aggregated components
  - Source of risk
    - Bias, privacy, security, transparency ...
- **Ex. Facial Recognition**
  - Customer on-boarding
  - School playground



# Technical Capabilities for Compliance

**AI Inventory management:** scalable & actionable insights

**Ongoing monitoring:** real-time & automated

**Testing:** technical assessment & risk mitigation

**Market monitoring:** automated AI incident tracking

**Validation and testing:** of business documentation

**AI auditing:** supplementary to enforcement action

# Regulation driving Innovation



- **Market Monitoring**
  - Very difficult
    - Ex. Fraud-detection; Anti-Money Laundering
- **Compliance by Design**
  - Mandate Design Principles
  - Require Validation to check
    - Internal/External audit
    - Conformity Assessments
- **Empiricism**
  - Reporting (Non-mandatory, incentivised through recognition (implicit accreditation))
  - Evidence **base**
- **Outcomes focused and risk-based enforcement**
- **Regulatory sandboxes and pilot projects**
- **Regulatory guidance** to promote AI adoption (**ex. Mandate third-party** auditing etc.)



**Holistic AI**

**Thanks**

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