#Standards4AI

‘Putting Science Into Standards’ workshop

Welcome!
We will start soon

AI for Law Enforcement and the Public Sector

9 June, 9:15-10:30

Panel discussion
Law Enforcement and the Public Sector

Roundtable speakers

Patrick GROTHER
NIST FRVT

Javier RODRÍGUEZ SAETA
Herta

Robin ALLEN
Cloister

Rosalía MACHÍN PRIETO
Gov Spain

Rapporteur: Isabelle Hupont Torres (JRC)

Audience interaction

slido.com

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- Select the **Law Enforcement** room on Slido
- Zoom chat - only technical questions to host
- Camera and audio OFF

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Patrick Grother

NIST

DATA QUALITY AND BIAS MITIGATION NEEDS AND PRACTICES LAW ENFORCEMENT + THE PUBLIC SECTOR. CASE-STUDY: FACE RECOGNITION

Professional background

- My background:
  - Pattern recognition; neural networks; biometrics; standards
  - NIST is a measurement lab: No policy, not regulatory

- Relevant work:
  - Worlds largest evaluations of face recognition algorithms ”FRVT”
    - Publish performance values + developer names
  - Use >100 million face photographs with age/sex/ethnicity metadata
    - Publish demographic dependencies

  - Quantitative support for biometrics + LE standards
  - Support to US Government agencies

Challenges Faced & Solutions

- False positive rates vary greatly ($x10^3$) across demographics
  - Higher in women, the old, the young
  - Higher in ethnicities that are under-represented in training data
    - Africa
    - Asia for western algorithms
    - E. Europe for some Chinese algorithms
  - Occurs even with pristine "passport quality" photos
- False negative rates vary much less
  - Related to bad photography – not algorithms
  - Related to data, bias in data, inclusiveness in AI, trustworthy AI in the topic of this panel
- Solutions:
  - NIST and ISO/IEC 19795-10 has metrics
  - Developers must address false positives; Deployers must address false negatives
- Recommendations: Test! Test! Test!

Way Forward, Next Steps

- Missing: Certification of algorithms
- Missing: Operational testing + test methods
- Missing: Image quality measurement tools

- Next step: Algorithm development
- Next step: Improved Standards for use of FR in LE

- Short term: (Sometimes) reduce human role in investigations using FR
- Long term: Improved FR trustworthiness
  - "ability to meet stakeholders' expectations in a verifiable way" (ISO/IEC 5723 JTC1 N15704)

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Thank you!

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Javier RODRÍGUEZ SAETA
Herta

Professional background

- Javier Rodríguez Saeta, PhD. CEO, Herta (SME)
- 22 years of experience in biometrics
- Working with Governments and LEAs in facial recognition and national databases of some countries
- Participating in EU project Starlight: Sustainable Autonomy and Resilience for LEAs using AI against High priority Threats
- Main applications: safe cities, border control, forensics, live surveillance

Challenges Faced & Solutions

- Main challenges about data:
  - How to obtain good quality data
  - How to check data is well balanced
  - How to validate the source of origin
  - How to exchange information with others
- Some potential solutions or initiatives:
  - Validation tests
  - Invest in labelling
  - Obtain data from trustworthy organizations
  - Use standards for exchanging information (NIST images)

Way Forward, Next Steps

- Many companies are offering labelled data to train AI models
- Measures about bias are important and should be included
- Standards will help to ensure data quality, and will facilitate the acquisition process
- Standards should be designed taking into account that they will be mainly adopted by SMEs
- The Total Cost of Ownership (TCO) must be low in order to grant accessibility from different types of organizations and entities

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Thank you!

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Robin Allen

Cloister

Professional background

- Robin Allen QC – Discrimination lawyer at Cloisters and Part-time Judge of the Crown Court dealing with criminal cases
- Specialism in AI and emerging technologies – see www.ai-lawhub.com
- Supporting the UN Special Rapporteur on the rights of persons with disabilities in relation to recent report on AI and discrimination
- Co-author of "Technology Managing People – the Legal Implications" for the TUC in the UK which informed its manifesto
- Devising and delivering training on AI and discrimination for Equality Bodies for the Council of Europe
- Advising business, governments and individuals on AI

Challenges Faced & Solutions

- *Understanding AI in the Law Enforcement context*: Police and Judges are not yet adequately trained in what it can and cannot do and where the issues are. It is also very difficult for juries to understand. However, DNA identification now very common and protocols used to describe how it can be relied on/

- *Yet discrimination is 'hidden':* How are law enforcement agencies and juries to know that the tool is discriminatory?

- *Human rights issues:* Training urgently needed for all LEAs.

Way Forward, Next Steps

- *Controlled innovation*: All LEAs need to have a separation between oversight committees and users of AI systems.

- *Achieving equality of arms*: Accused persons need to have full access to AI/ADM systems used by LEAs so that they are able to challenge their use and accuracy.

- *Special protection for Disabled people*: A means of understanding and validating whether reasonable accommodations have been made for disabled people, and, that disabled people are appropriately represented in data sets.

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Thank you!

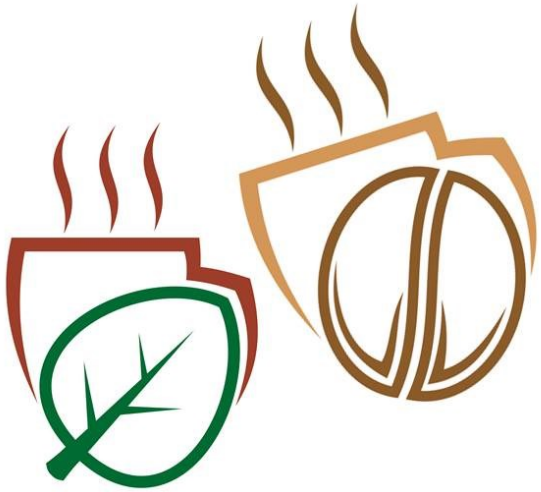
Programme – what's next?

10:30 - 10:45	*Coffee break*
10:45 - 12:00	**Parallel sessions** (Media/ Medicine & Healthcare/ Industrial Automation & Robotics)
12:00 - 13:30	*Lunch break*
13:30 - 16:00	**Main Plenary room**

Please check your email for the links to access the parallel session of your choice

The link will also be published on Slido and Zoom chat

Let’s take a break!



COFFEE BREAK

Join the parallel session of your choice at 10:45!