52nd Asia Pacific Privacy Authorities Forum 2019: CIPL and TTC Labs Mini Design Jam on AI Explainability

AI Explainability – Sharing by Hong Kong Privacy Commissioner

3 December 2019, Ocean Pavilion, Shangri-La Mactan, Cebu, Philippines

Stephen Kai-yi WONG, Barrister
Privacy Commissioner for Personal Data, Hong Kong, China
Transparency

Personal Data Protection

Explainability

Importance of Explainability

• Part and parcel of personal data protection and transparency
• Avoid distrust of and grievance against organisations
• Respect human dignity
• Ensure fairness
Explainability: Core of AI governance principles worldwide

ICDPPC - “Declaration on Ethics and Data Protection in Artificial Intelligence” (2018)

- To verify continuous alignment with individuals’ expectation
- To enable overall human control

Explainability

China – “Governance Principles for AI” (2019)

- To ensure reliability, controllability and safety of AI


- Ability to explain technical process of AI and human decisions
- Automated decisions be understood by humans and be traceable

OECD – “Principles for Responsible Stewardship of Trustworthy AI” (2019)

- To enable the affected individuals to understand and to challenge the outcomes
### China’s National AI Standardization Group: Indicators of algorithmic ethics

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<tr>
<th>Indicator</th>
<th>Description</th>
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<tr>
<td><strong>Transparency</strong></td>
<td>• Disclose source code or operation rules of AI (provided that IP rights are not compromised)</td>
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<td><strong>Reliability</strong></td>
<td>• Produce results without errors within specified timeframe</td>
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<td><strong>Explicability</strong></td>
<td>• Be able to explain the reasons for certain results</td>
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<tr>
<td><strong>Verifiability</strong></td>
<td>• Be able to reproduce the same results under specified conditions</td>
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Source: Report on Risk Analysis of AI Ethics (April 2019)
Source: Lilian Edwards & Michael Veale, *Slave to the Algorithm? Why a “Right to an Explanation” is probably not the remedy you are looking for*

Lighting up Hong Kong as a Smart City

Smart Lamppost Features and Applications – Smart Devices

- LED lighting
- Meteorological sensors
- Thermal detector
- Panoramic camera
- Wi-Fi access point
- Network equipment (Included Wi-Fi, Wireless and Fibre network)
- Industrial grade computer
- Bluetooth detector
- Gamma sensor
- Power supply equipment
- Geo-marker
- Bluetooth Beacon
- RFID tag and Geo-marker
- RFID tag

Source: OGCIO, Hong Kong
**AI applications in Smart Lampposts**

**Panoramic cameras with AI**

- Collect real-time traffic data for sharing to the public as well as traffic monitoring and incident management. Vehicle speed and types can be analyzed.

- Collect illegal dumping data and analyze patterns of illegal dumping activities. There will be auto-detection of illegal dumping activities.
To be explainable!

- Why and how the system generates a particular output or decision? What’s the logic and rationale?
- What is the process of machine learning? What combination of input factors contributed to the decision?
- Avoid “Black Box” algorithms that are opaque and complicated
- Explainability is crucial for building and maintaining the public’s trust in the AI system
• Not yet a standalone regulation in Hong Kong

• The idea of explainability is embedded in data ethics and accountability and reflected in the some industry.

• E.g. "Guidelines on Online Distribution and Advisory Platforms" by the Securities and Futures Commission, Hong Kong, July 2019

• E.g. Ethical Accountability Framework for AI (Draft), to be published by PCPD
Guidelines on Online Distribution and Advisory Platforms

• The Guideline applies to:
  • Provision of financial advice in an online environment using algorithms and other technology tools
  • Uses of data and algorithms to profile clients and devise responses
• Requirements:
  • Information about the algorithm and its limitations must be provided to clients
  • Internal controls in place to supervise algorithm, prevent unauthorised access
Building upon:

- Ethical Accountability Framework for Hong Kong, China – PCPD (2018)
- Declaration on Ethics and Data Protection in Artificial Intelligence – ICDPPC (2018)
Thank you

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