Responsible AI, FEAT & Veritas

Dr. Li Xuchun
AI Development Office,
FinTech & Innovation Group, MAS
Agenda

1. Responsible Use of AI and DA, FEAT
2. Veritas Background
3. Veritas Phase One
4. Veritas Phase Two Plan
1. Responsible use of AI and DA, FEAT
Why are we concerned with the responsible use of AI and DA?

What all of us have to do is to make sure we are using AI in a way that is for the benefit of humanity, not to the detriment of humanity.”

- Tim Cook, CEO, Apple
FEAT Principles

**Fairness**
With data, there are infinite possibilities of what we can do. But, **should** we?

**Accountability**
Do we understand how data-driven decisions are made? Who bears the **responsibility** and **risks** of these decisions?

**Ethics**
Are there certain **lines** that should not be crossed?

**Transparency**
To what extent should **explanations** be given for data-driven decisions?
Examples of the FEAT Principles

**Fairness**
- Ensure that individuals or groups are not systemically disadvantaged through AIDA-driven decisions unless these decisions can be justified
- Regular review of models and AIDA-driven decisions to minimize bias and ensure models

**Ethics**
- Use of AIDA is aligned with firm's ethical standards, values and codes of conduct
- AIDA-driven decisions held to same ethical standards as human-driven decisions

**Accountability**
- Internal accountability to the firm's stakeholders (management, Board)
- External accountability to data subjects

**Transparency**
- Disclosure of AIDA use to data subjects
- Provision of clear explanations on data used to make AIDA-driven decisions and how it impacts them
- Provision of clear explanations of how AIDA-driven decisions impact data subjects
2. Veritas Background
Global AI Governance Landscape

- **Nov 2018**
  - Singapore
  - MAS FEAT Principles

- **Feb 2019**
  - Japan
  - Social Principles of Human-Centric AI

- **May 2019**
  - OECD
  - OECD Principles on AI

- **Nov 2019**
  - Hong Kong
  - HKMA High-level Principles on Artificial Intelligence

- **Feb 2019**
  - Japan
  - Social Principles of Human-Centric AI

- **Apr 2019**
  - EU
  - Ethics guidelines for trustworthy AI

- **May 2019**
  - OECD
  - OECD Principles on AI

- **Jun 2019**
  - China
  - Governance Principles for the New Generation Artificial Intelligence

- **Nov 2019**
  - Hong Kong
  - High-level Principles on Artificial Intelligence

- **Nov 2019**
  - Australia
  - AI Ethics Framework

- **Mar 2021**
  - Korea Financial Services Commission
  - Announces a new policy framework on insurance business

- **Apr 2021**
  - Hong Kong
  - The State of Ethical AI in Hong Kong

- **Apr 2021**
  - European Commission
  - Proposal for a Regulation laying down harmonised rules on artificial intelligence

- **Apr 2021**
  - U.S. Federal Trade Commission
  - Guidance on AI

- **Mar 2021**
  - The five largest federal financial regulators in the United States released a request for information on how banks use AI
Objective
Creating a standardized and modular implementation methodology of FEAT principles and programming open source code.

Challenges
Practical implementation of FEAT principles: Fairness, Ethics, Accountability and Transparency.

Consortium
Formation of industry consortium to develop Veritas to validate AI models against FEAT.

Impact
inclusive financial services by using AI and Machine Learning in a responsible way.

Veritas
3. Veritas Phase One
### Scope of Veritas Phase One in 2020

Veritas was announced at 2019 Singapore FinTech Festival as part of Singapore National AI Strategy by DPM.

Veritas phase one: focus on fairness principles of FEAT.

Veritas phase one: two banking use cases were selected which are credit risk scoring and customer marketing.
Phase One Deliverables: Whitepapers and Python Open Source Code

**Whitepaper to document the generic methodology to assess the fairness for AIDA system.**

**Whitepaper of use case studies for credit risk scoring and customer marketing.**

**Python code for Credit Risk use case**

**Python code for Customer Marketing use case**
A Comprehensive Five-part Methodology to Assess Alignment with FEAT Fairness Principles

A

Describe system objectives and context

B
Examine data and models for unintended bias

C
Measure disadvantage

D
Justify the use of personal attributes

E
Examine system monitoring
Veritas Fairness Assessment Flow

1. Define scope of assessment
2. Adapt assessment
3. Gather required information
4. Decide on measures and metrics
5. Complete analysis and review
6. Address feedback and report on results

- Fairness assessment Part A questions
- Fairness assessment Part B-E questions
- All information required to complete assessment
- Choices of measure and metrics and justifications for those choices
- Self-assessment report and feedback from internal stakeholders
- External reporting
4. Veritas Phase Two
Plan of the Veritas Phase Two in 2021

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- **Use Cases for FAIRNESS**: Insurance Underwriting
- **Use Cases for ETHICS & ACCOUNTABILITY**: 
  - Customer marketing (Banking)
  - Fraud detection (Insurance)
- **Use Cases for TRANSPARENCY**: 
  - Credit risk scoring (Banking)
  - Customer marketing (Banking)
Veritas Consortium Members in the Phase Two

**LEAD MEMBERS**
Drive the Veritas development of the use cases

- HSBC
- Swiss Re
- Standard Chartered
- AXA
- UOB
- accenture
- truera

**MEMBERS (FIS)**
Provide domain knowledge & feedback on the use cases

- ICBC
- DBS
- Citi
- Goldman Sachs
- BNP Paribas
- PingAn Financial Technology
- China Bank
- UnionBank
- MUFG
- OCBC Bank
- Prudential
- BNY Mellon

**FACILITATORS**
Facilitate the whole program

- Monetary Authority of Singapore
- Accenture

**ADVISORY MEMBERS**
Provide expertise & review the whitepaper

- Microsoft
- BAFT
- CFA Society Singapore
- AWS
- Google
- IBM
Thank you!