

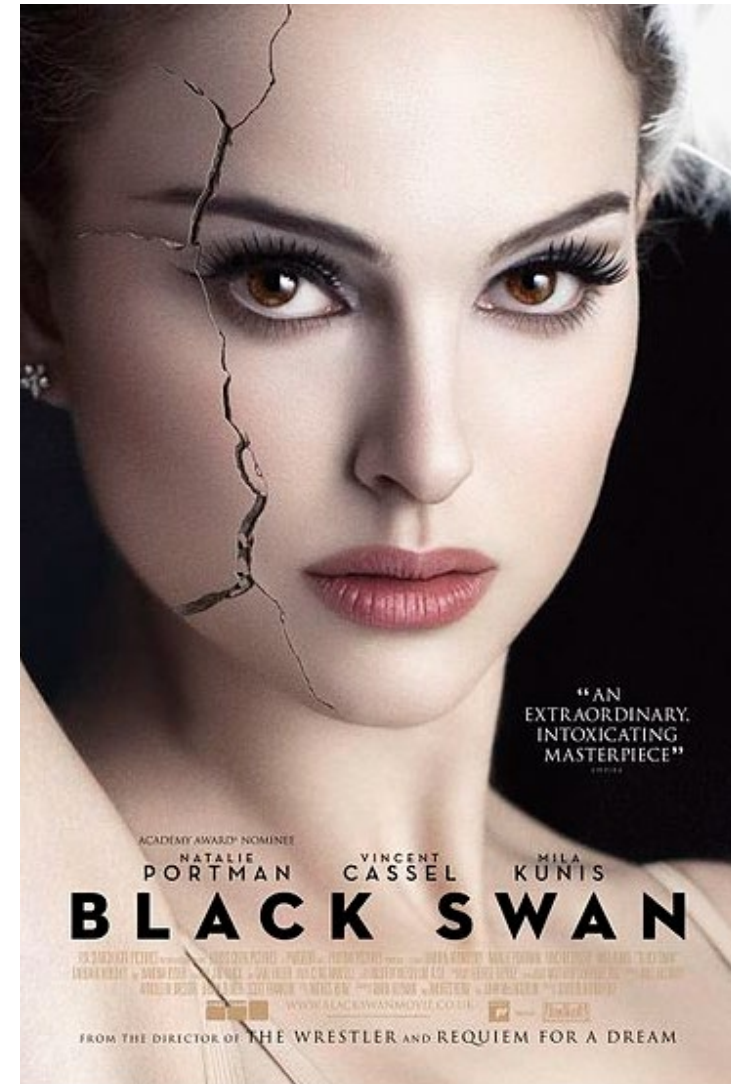
# When Queen's Gambit runs into a Black Swan

Ethical use of data in insurance

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# Tension between different aspects of insurance

- Insurance is based on collective sharing of risks: under certain conditions a pool of risks can be created where risk is diminished in the sense that variation is smaller – a risk that is insurmountable for an individual can be replaced with a modest annual premium
- Insurance is a product sold by an insurer to a consumer – the interest of this customer is to have insurance cover without being discriminated against
- It is in the interest of the pool to protect itself against the inclusion of inappropriate risks into the pool < – > an individual customer wants to have insurance cover with as low a price as possible, and to have claims paid without restrictions

# Digitalised world and insurance

- Digitalised world brings new elements into insurance, e.g.,
  - Data in digital form is mushrooming
  - Availability of data increases and its price is decreasing
  - Processing of data is faster and more efficient with prices going down
  - Advances in Data Science and Artificial Intelligence etc. create tools for better predictions
- The tension mentioned above remains, but some problems are alleviated while others might be exacerbated – special attention needed with
  - Adverse selection
  - Combatting insurance fraud
  - Avoiding discrimination

# Is it easy to be responsible&ethical in the digital world – can we leave everything to AI?

- Ethics, but which ethics:
  - Duty/obligation ethics, deontology (Kant)?
  - Consequentialism, utilitarianism (Bentham)?
  - Ethics based on social contract theory (Hobbes), or even theory of justice by Rawls?
- One of the problems with these is that they lead into contradictions (deontology or utilitarianism ) or they are impossible to apply in practice (social contract theory)
- Virtue ethics (Confucius, Buddha, Aristotle etc.) could work, but Artificial Intelligence hardly can learn to automatise this

# EIOPA (European Insurance and Occupational Pensions Authority) on ethics in AI

- EIOPA set up an expert group on digital ethics towards the end of 2019 – its report will be published towards the end of May, 2021
- Actuarial Association of Europe proposed two members (Lutz Wilhelmy, Esko Kivisaari) who became chairpersons of two of the three workstreams of the group (and also the third workstream was led by an actuary, Pedro Écija Serrano from Ireland)
- EIOPA's group will propose six principles:
  - Principle of proportionality
  - Principles of fairness and non-discrimination
  - Principle of transparency and explainability
  - Principle of Human Oversight
  - Principle of data governance of record keeping
  - Principle of Robustness and Performance

# News of AI replacing humans (or even actuaries for heaven's sake!) are premature

- Chess and some other games are in crisis as AI beats humans
- A characteristic of such games is that their rules are stable – a knight will not transform itself into a kangaroo, you cannot continue to the flip side of the table
- When rules change, when a black swan arrives, queen's gambit no longer works and a human is needed
- In ethics the world changes and unforeseen situations are unavoidable
- Human virtues are needed to guide us forward

# Financial sector – better finances for everyone

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