

# Fairness and Interpretability in Machine Learning

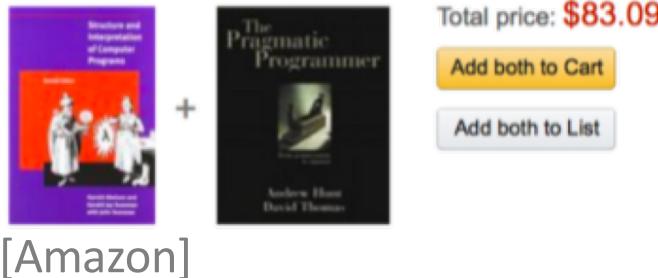
Isabel Valera

MPI for Intelligent Systems

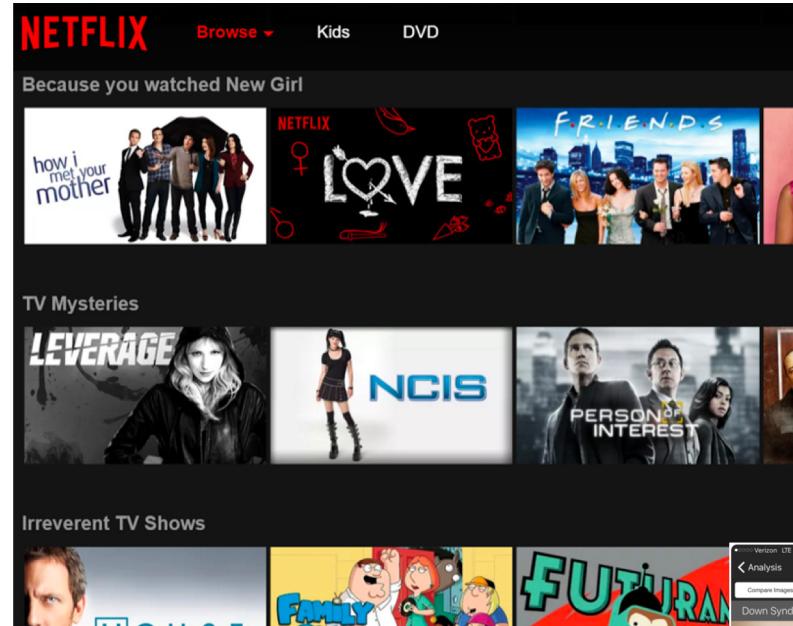


# ML methods are ubiquitous

Frequently Bought Together



[Amazon]

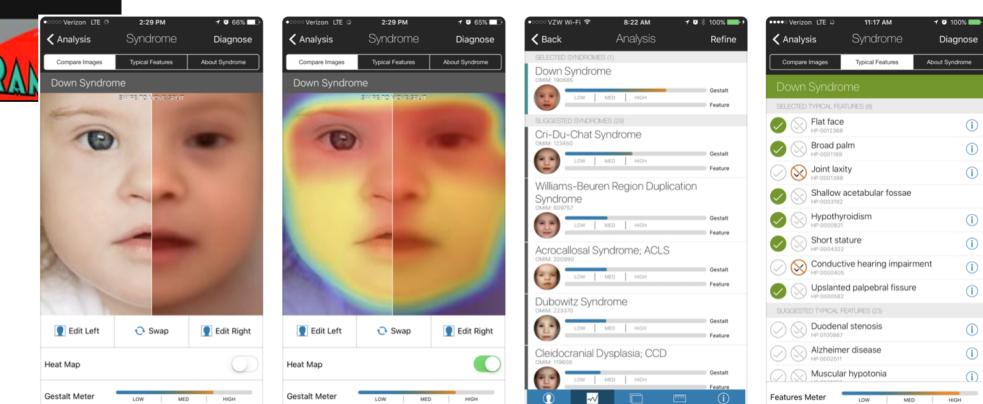


**The New York Times**  
*Banking Start-Ups Adopt  
New Tools for Lending*

``Big-data lending, though, relies on software algorithms...''

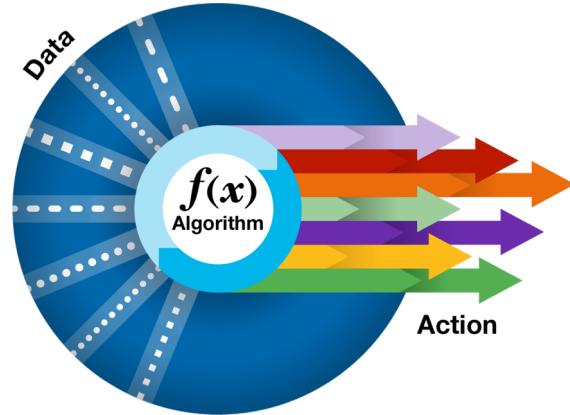


[AppleNews]



[Face2Gene]  
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# ML for decision making



Machine learning to **assist** or **replace** human-decision making.

Increasingly used in many domains:

Banking (e.g., loans)

Recruiting (e.g., hiring)

Insurance (e.g., premium)

Judiciary (e.g., bail)

Security (e.g., patrolling)

Reviewing (e.g., paper assignments)

# Social and Legal Concerns

TIME

## Google Has a Striking History of Bias Against Black Girls

MIT News  
ON CAMPUS AND AROUND THE WORLD

The privacy risks of compiling mobility data

Merging different types of location-stamped data can make it easier to discern users' identities, even when the data is anonymized.

The New York Times

G.D.P.R., a New Privacy Law, Makes Europe World's Leading Tech Watchdog

Bloomberg Businessweek

Artificial Intelligence Has Some Explaining to Do

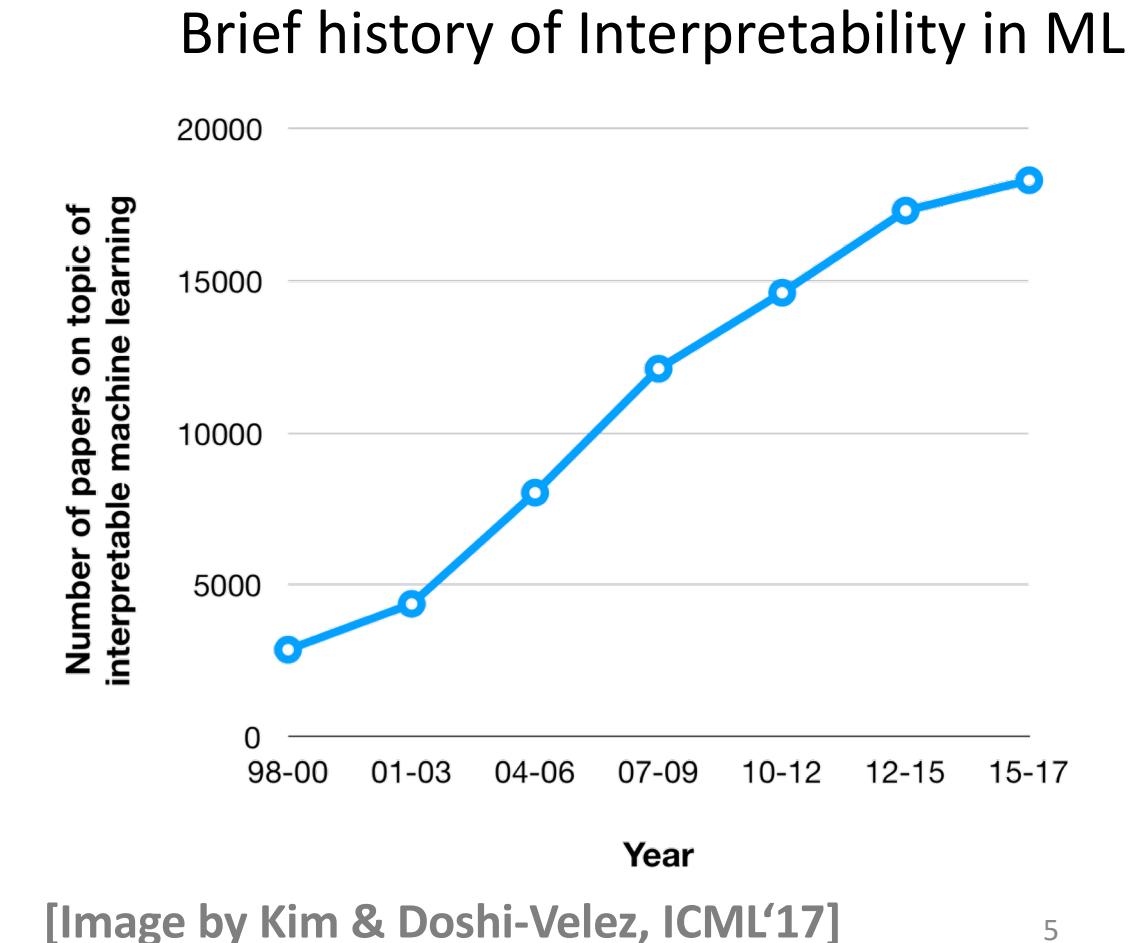
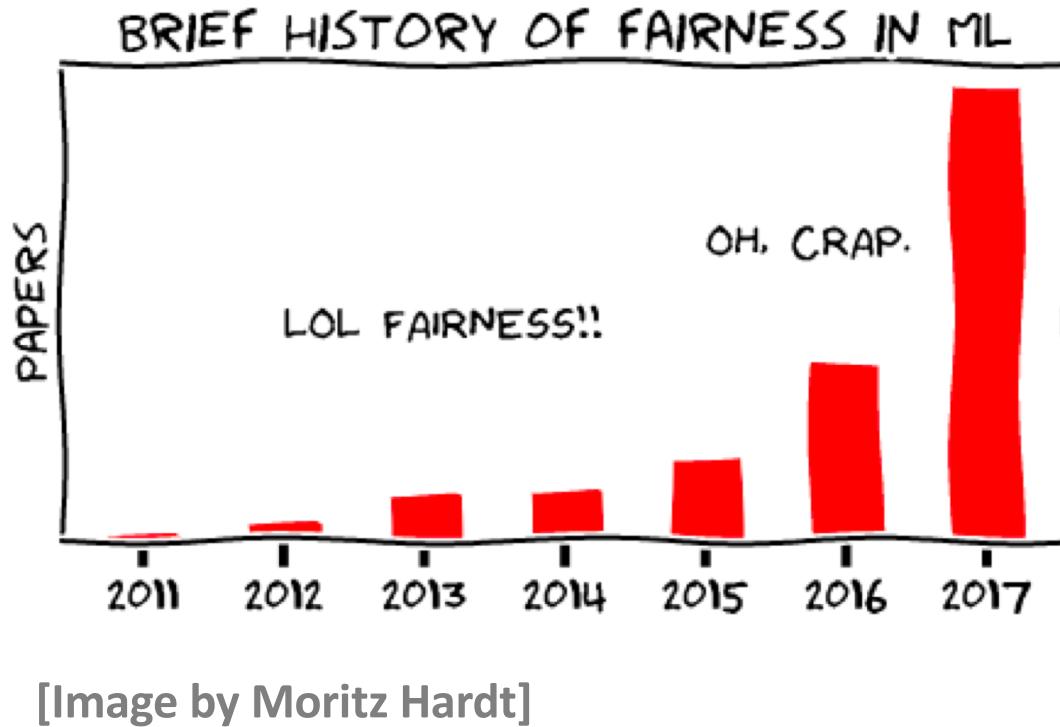
Healthcare IT News

AI in healthcare - not so fast? Study outlines challenges, dangers for machine learning

BBC

AAAS: Machine learning 'causing science crisis'

# Fairness & Interpretability in Machine Learning



# Seminar Material

<https://github.com/probabilistic-learning/LvivSummerSchool19>