

# Humans First: A Manifesto for the Age of Robotics

A review of Frank Pasquale's 'New Laws of Robotics'

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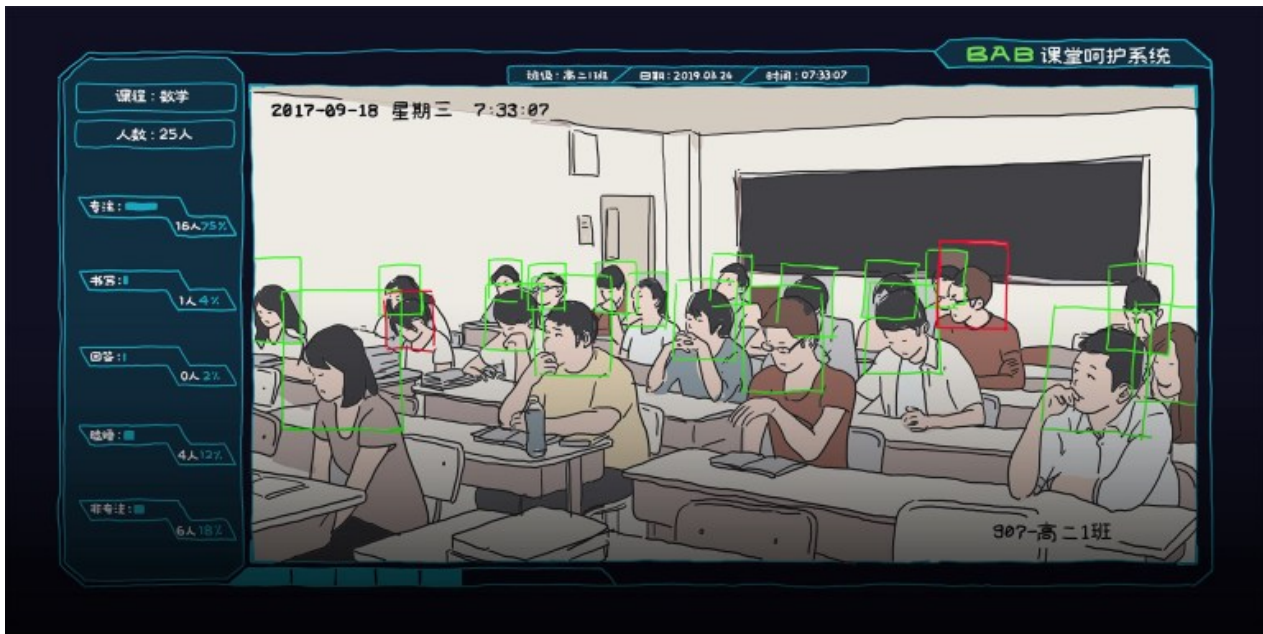
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*In 2018, the hashtag #ThankGodIGraduatedAlready began trending on China's Weibo social media platform. The tag reflected concerns among Chinese students that schools had begun to install the 'Class Care System', developed by the Chinese technology company Hanwang. Cameras monitor pupils' facial expressions with deep learning algorithms identifying each student, and then classifying their behaviour into various categories - "focused", "listening", "writing", "answering questions", "distracted", or "sleeping". Even in a country where mass surveillance is common, students reacted with outrage.*

There are many technological, legal, and ethical barriers to overcome before machine learning can be widely deployed in such ways but [China](#), in its push to overtake [the US as world's leader](#) in artificial intelligence (AI), is racing ahead to introduce such technology before addressing these concerns. And China is not the only culprit.

Frank Pasquale's book '[The New Laws of Robotics: Defending Human Expertise in the Age of AI](#)' investigates the rapidly advancing use of AI and intelligent machines in an era of automation, and uses a wide range of examples - among which the 'Class Care System' is far from the most sinister - to highlight the threats that the rush to robotics poses for human societies. In a world dominated by corporations and governments with a disposition for centralising control, the adoption of AI is being driven by the dictates of neoliberal capitalism, with the twin aims of increasing profit for the private sector and cutting costs in the public sector.

Pasquale's book vividly demonstrates how the use of immature technology and crude algorithms for these purposes is shattering privacy rights, undermining workplace protections, ignoring diversity, and reinforcing discrimination, power imbalances, and wealth differences.



A modern panopticon: Hanwang's 'Class Care System' uses AI and facial recognition technology to constantly monitor Chinese school students. Image credit: Sixth Tone.

Pasquale argues that another future is possible, and that AI can be adopted for the benefit of humanity – promoting prosperity and providing meaningful work – by striking a balance between the ingenuity and creativity of humans and the precision and analytical capacity of machines. To do this, he proposes four new laws of robotics, extending the influential [laws of robotics](#) outlined by Isaac Asimov in his [‘I Robot’](#) science fiction stories. Pasquale’s four laws are:

- Robotic systems and AI should complement professionals, not replace them.
- Robotic systems and AI should not counterfeit humanity.
- Robotic systems and AI should not intensify zero-sum arms races.
- Robotic systems and AI must always indicate the identity of their creator(s), controller(s), and owner(s).

The book identifies how these laws can be applied in areas where the use of AI is rapidly expanding: health and social care, education, automated media, the legal and judicial system, and warfare, and applies them to real-life ethical dilemmas which the egregious application of AI has exposed. In places the writing is sometimes a little prosaic, but the book draws on a wealth of examples to show the risks which arise from poorly thought-out applications of AI and out-of-control robots – which Pasquale describes as “as dangerous as unregulated bioengineering of viruses”. He is not afraid to call out the tech giants as serial offenders in this respect: Facebook for peddling fake news and conspiracy theories and failing to regulate user content to safeguard its users, and Google for failing to moderate un-transparent search algorithms which have at times promoted [racist and anti-Semitic content](#) and flagged disturbing [spoof videos of cartoon characters](#) abusing each other as ‘child friendly’.

‘New Laws of Robotics’ is not, however, a mere horror-show, cataloguing irresponsible technical decisions: it is firmly focused on providing solutions intended to harness the algorithm and design a future where humans and machines work together and the use of machines will enrich and enlighten humanity.

Frank Pasquale is a Professor of Law at Brooklyn Law School, specialising in the law of AI, algorithms, and machine learning, so it's perhaps not surprising that his solutions for delivering algorithmic accountability are based on regulation and legal measures. However, in the current neoliberal political climate, how likely are his ideas to gain momentum? In the United Kingdom, where the Johnson government is keen to exploit the economic benefits of AI but uninterested in regulation, the [Centre for Data Ethics and Innovation](#) has been set up to advise on the governance of AI and data-driven technology. To date, the Centre's work has had limited impact and Ministers have yet to take forward any of its recommendations. At the same time, senior military figures are rushing to embrace the prospect of '[robot soldiers](#)' before the UK has fully considered the ethical and practical implications of this – unlike the US Department of Defence, which has published [a set of ethical principles](#) to guide its use of military AI. Many would argue that in less liberal countries such as Russia and China the likelihood of an ethical approach to the adoption of AI is even less likely than in the UK.

Among the measures that Pasquale suggests to keep algorithms under control is putting an end to decision-making on the adoption of AI and robotics by technologists and managers – “tech evangelists”, as Pasquale describes them – and instead democratising decisions in this field. He gives a number of suggestions on how to increase public engagement to do this. He also proclaims the need for a sea-change in what he calls ‘the political economy of automation’ – a move away from the mindset that automation should be pursued as an end in itself, and instead advocates an approach which aims for ‘better AI’ rather than ‘more AI’.

What would perhaps also be welcome in Pasquale's manifesto for the future is a louder wake-up call to those who have not yet appreciated the changes and risks that society is facing as a result of advances in AI and robotics. Civil society, the press, and activists have a duty to help educate the public in this respect. Perhaps the first place to start is in the trade union movement, by working with unions to force managers to introduce automated systems which genuinely improve conditions in the workplace and services to the public, rather than just improve the bottom line on the balance sheet. This might empower us to deliver the much-needed controls on the technologies of the future which Pasquale has elegantly articulated.

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