Inteligência Artificial

Princípios, Estratégias e Regulação

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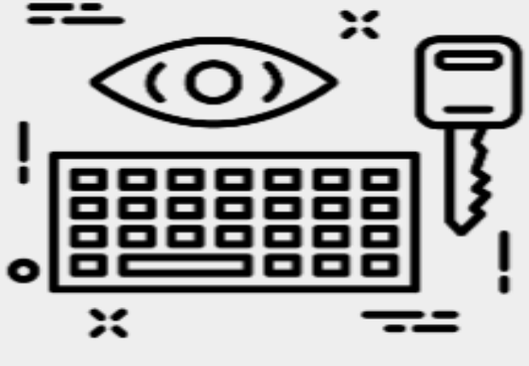
ITS

áreas de pesquisa

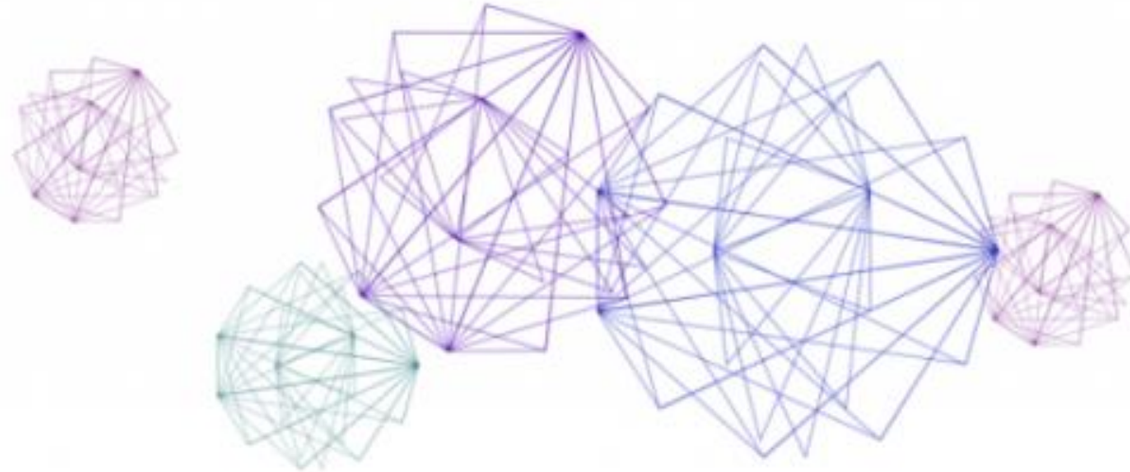
direitos e tecnologia



educação

repensando inovação

democracia e tecnologia



GLOBAL NETWORK OF **INTERNET AND SOCIETY** RESEARCH CENTERS

Artificial Intelligence & Inclusion Symposium

https://aiandinclusion.org/

Full Session Videos

Reading List

GLOBAL SYMPOSIUM

ARTIFICIAL INTELLIGENCE & INCLUSION

Event Website

DotPlot, An interactive visualization that shows the global perception of AI & inclusion from the participants

Write-ups about the event:

- Charting a Roadmap to Ensure Artificial Intelligence (AI) Benefits All, *Berkman Klein Center*
- The real danger of Artificial Intelligence is not what you think, *João Duarte*
- Bibi Reisdorf at the Global AI & Inclusion Symposium in Rio de Janeiro, *Bianca Reisdorf*
- Global Symposium on Artificial Intelligence & Inclusion, *Lucas Anjos and Odélio Porto Júnior*
- Top takeaways from the Global Symposium on AI and Inclusion, *Aparna Ashok*

ITS

BERKMAN KLEIN CENTER

Museu do Amanhã

Selfie de macaco e mazurca de Chopin

(caso 1: Selfie do Macaco)

Copyright / Standing

Affirming the district court's dismissal of claims brought by a monkey, the panel held that the animal had constitutional standing but lacked statutory standing to claim copyright infringement of photographs known as the "Monkey Selfies."

Em 2016 a Corte Distrital do Norte da Califórnia rejeitou a ação alegando que a lei de direitos autorais nos Estados Unidos não confere a animais o direito de processar terceiros para defender direitos de autor. O Poder Judiciário norte-americano já havia se pronunciado sobre caso semelhante quando, também no Nono Circuito, foi ingressada uma ação em nome de toda a comunidade de cetáceos por um advogado que se dizia constituído para defender "todas as baleias, toninhas e golfinhos do mundo."

A PETA apelou da decisão da corte distrital. Enquanto a Corte de Apelação não decidia o caso, as partes entraram em acordo para terminar a disputa. De acordo com os termos desse acordo, David concordava em ceder 25% de todos os proveitos com a foto para instituições que cuidassem dos macacos-de-cresta na Indonésia. Sendo assim, as partes peticionaram para que o caso fosse encerrado.

Dada a enorme repercussão do caso e o interesse em pacificar a controvérsia, a Corte de Apelação optou por seguir em frente e decidir a questão. O acórdão que enfim coloca um ponto final na controvérsia afirma então que macacos não podem ser parte em uma ação judicial (ou ser representados) para a tutela de direitos autorais. O próprio escritório de direitos autorais dos Estados Unidos já havia também decidido que animais não podem ser autores.

(caso 2: Selfie do Oscar)

Jornais e agências de mídia republicaram a foto no dia seguinte. Muitas tomaram o cuidado de pedir a autorização da apresentadora. **Mas será que pediram para a pessoa certa?** Ellen teve apenas a ideia, mas foi Bradley Cooper que, ao montar o enquadramento e escolher o momento certo para clicar deveria ser reconhecido como o verdadeiro autor da foto.

Ninguém levou a sério, na época, a noção de que talvez o titular dos direitos autorais da foto pudesse ser também a Samsung, fabricante do celular usado para tirar a selfie. A empresa coreana apenas desenvolveu o hardware do celular, mas todo o trabalho criativo foi feito por um ser humano.

Quer ter uma pele linda e suave? Tire uma selfie. (Foto: Unboxed Therapy)

(caso 3: todas as selfies)

Quanto mais o resultado final de uma foto for criado a partir de melhorias inseridas automaticamente, **será que ainda estamos de verdade no controle de nossas criações?** Será que o que fotografamos ainda é a realidade, capturada por uma câmera, ou apenas uma ilustração, tipo uma arte gráfica, alterada por computadores para agradar o nosso senso estético?

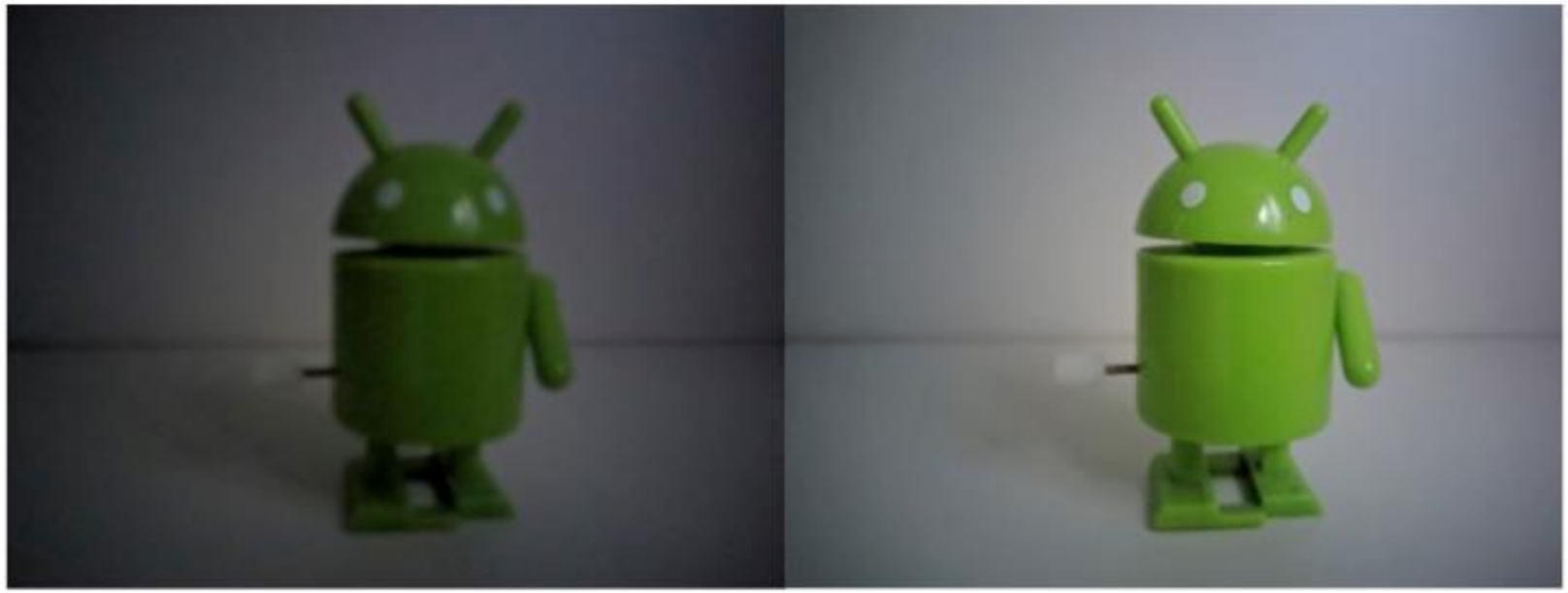


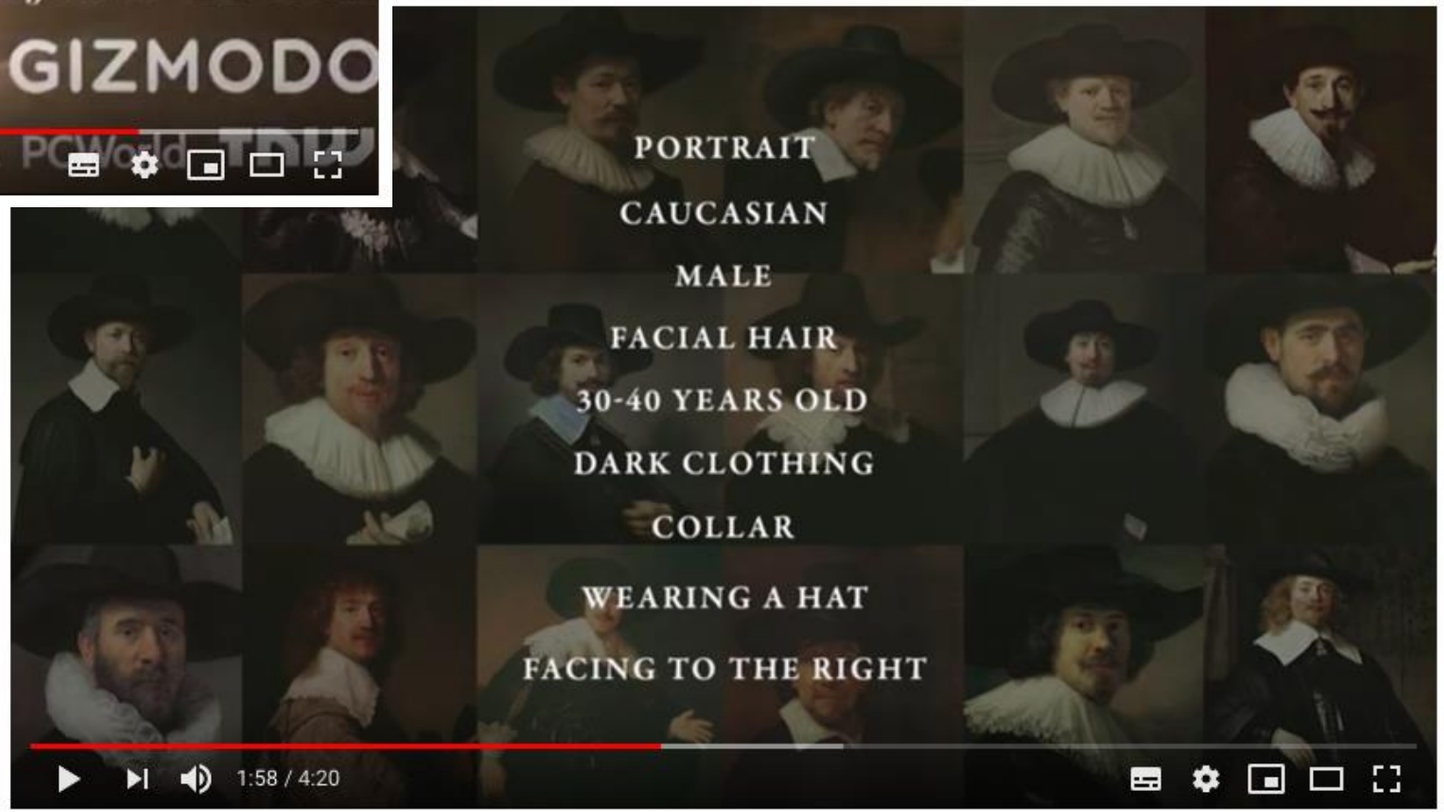
Foto normal e outra com o auxílio da visão noturna (sem flash). A diferença impressiona. Só faltou o Night Sight reconstruir o braço perdido do nosso Android de corda. Fica a dica. (Cortesia: Gabriel Aleixo)

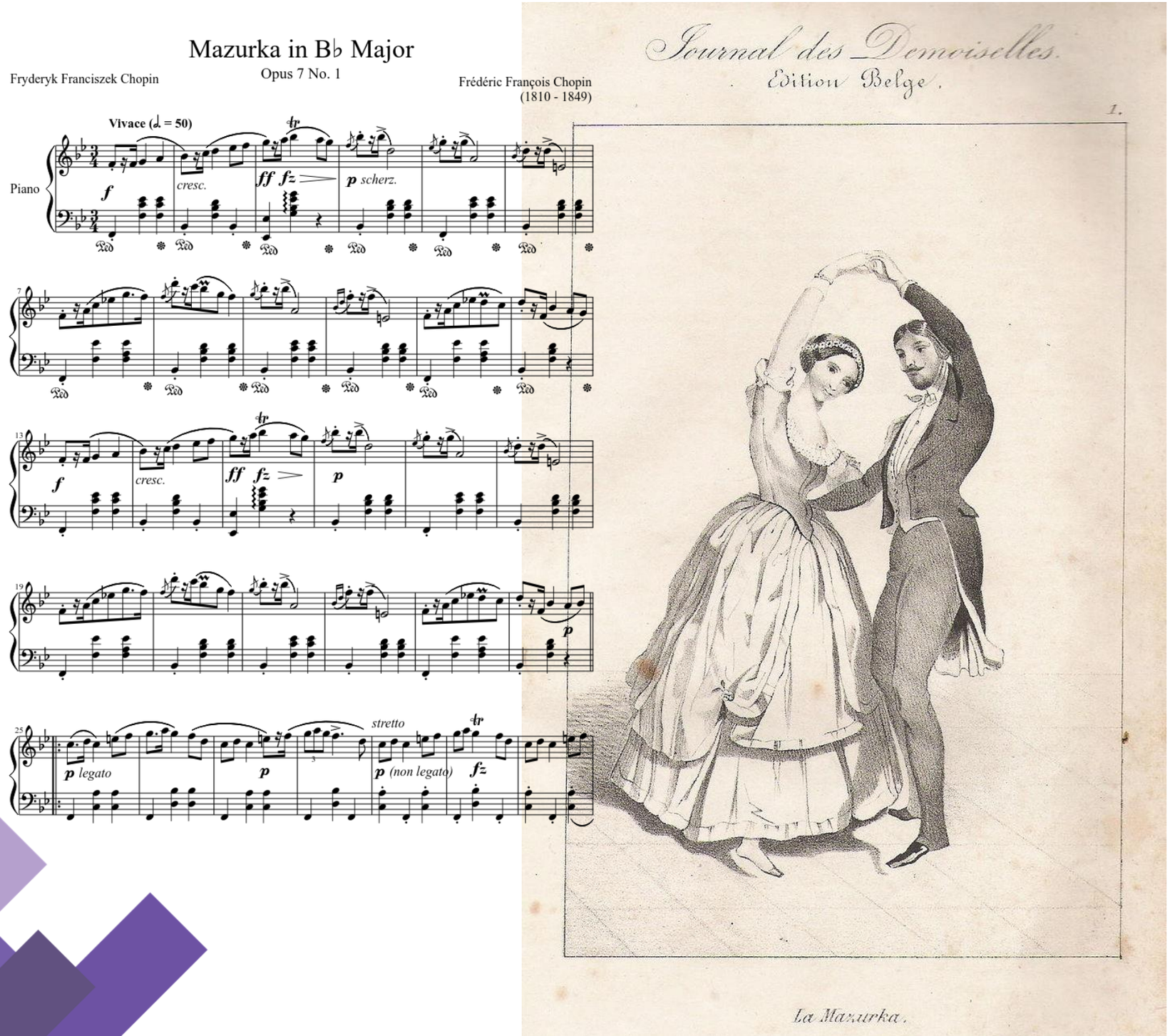
Alguns experimentos com o night sight mostraram que o recurso chega a inserir novos elementos nas fotos, já que dada a pouca luminosidade o software precisa "adivinhar" o que estaria ali, completando a foto ou simplificando texturas. Geoffrey Fowler, escrevendo para o Washington Post, perguntou: "**Até onde os telefones removerão nossas fotos da realidade?** Podem os softwares nos treinar a achar que algo parece normal? Que partes das imagens deixaremos os computadores editarem? Em uma foto que tirei da Casa Branca (sem visão noturna), notei que os algoritmos do Pixel 3 treinados para suavizar as imperfeições realmente removeram detalhes arquitetônicos que ainda eram visíveis em uma foto no iPhone XS."

(caso 4: o novo Rembrandt)

https://www.youtube.com/watch?v=R18zOPqQF0c

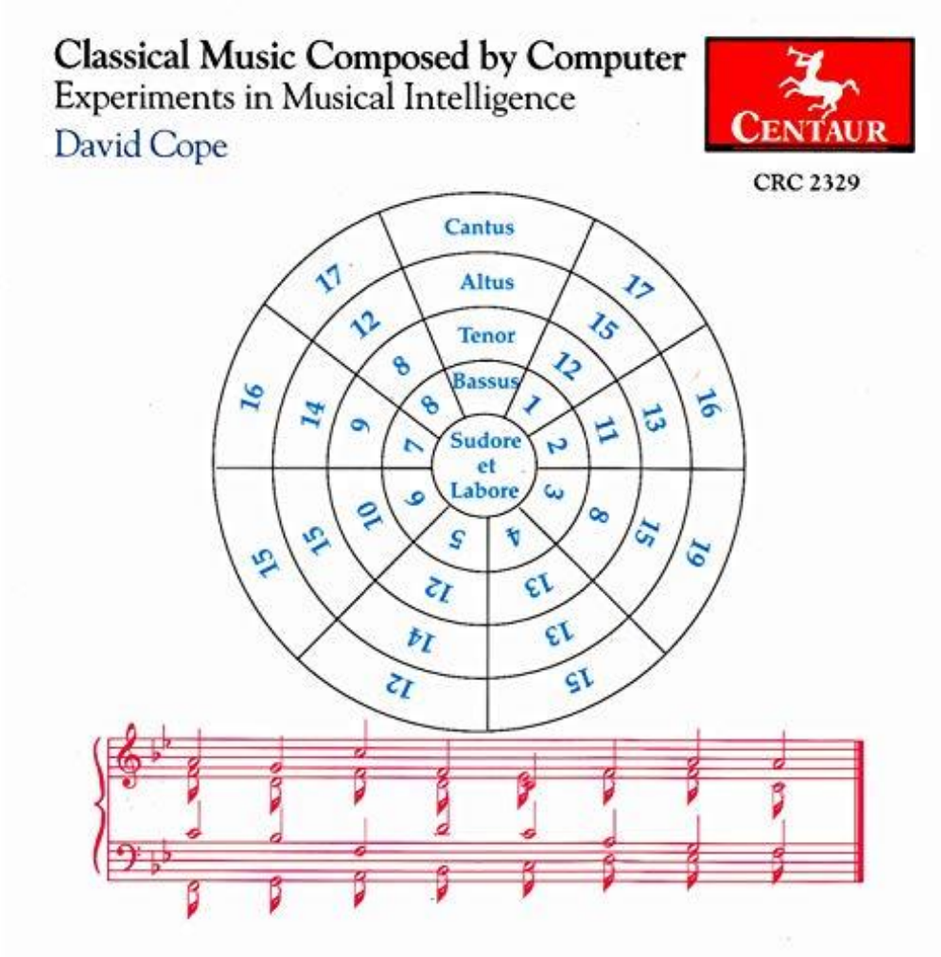
https://www.youtube.com/watch?v=IuygOYZ1Ngo





(caso 5: a nova mazurca)

Entre 1825 e 1849, Chopin compôs 59 mazurkas, inspiradas na dança tradicional polonesa que tomou de assalto os salões europeus no século XIX.



Em 1994, 145 anos depois de sua morte, ele “compôs” uma nova

Interview

David Cope: 'You pushed the button and out came hundreds and thousands of sonatas'

Tim Adams

Composer David Cope has spent the last 30 years teaching computers to create classical music

http://artsites.ucsc.edu/faculty/cope/

He can't imagine the possibility of going back to writing with just his own intuition and a pen and paper. "The programs are just extensions of me. And why would I want to spend six months or a year to get to a solution that I can find in a morning? I have spent nearly 60 years of my life composing, half of it in traditional ways and half of it using technology. To go back would be like trying to dig a hole with your fingers after the shovel has been made, or walking to Phoenix when you can use a car."

Tradicionalmente o uso de computadores para gerar uma obra intelectual não despertava questionamentos sobre autoria, pois a máquina seria apenas um instrumento, como o **pincel ou a caneta na mão do criador**.

Além disso, para a qualificação da obra protegida é preciso que ela seja original e a originalidade sempre guardou estrita correlação com a presença de uma pessoa natural como autor. O que acontece quando **o computador deixa de ser um instrumento** e começa a tomar decisões com pouca ou nenhuma intervenção humana?

WIPO | MAGAZINE

Artificial intelligence and copyright

*By **Andres Guadamuz**, Senior Lecturer in Intellectual Property Law, University of Sussex, United Kingdom*

One could argue that this distinction is not important, but the manner in which the law tackles new types of machine-driven creativity could have far-reaching **commercial implications**.

Artificial intelligence is already being used to generate works in music, journalism and gaming. These works could in theory be deemed free of copyright because they are not created by a human author. As such, they could be freely used and reused by anyone. That would be very bad news for the companies selling the works. Imagine you invest millions in a system that generates music for video games, only to find that the music is not protected by law and can be used without payment by anyone in the world.

Legal options

There are two ways in which copyright law can deal with works where human interaction is minimal or non-existent. It can either deny copyright protection for works that have been generated by a computer or it can attribute authorship of such works to the creator of the program.

To my knowledge, conferring copyright in works generated by artificial intelligence has never been specifically prohibited. However, there are indications that the laws of many countries are not amenable to non-human copyright. In the United States, for example, the Copyright Office has declared that it will "register an original work of authorship, provided that the work was created by a human being." This stance flows from case law (e.g. *Feist Publications* v *Rural Telephone Service Company, Inc. 499 U.S. 340 (1991)*) which specifies that copyright law only protects "the fruits of intellectual labor" that "are founded in the creative powers of the mind." Similarly, in a recent Australian case (*Acohs Pty Ltd* v *Ucorp Pty Ltd*), a court declared that a work generated with the intervention of a computer could not be protected by copyright because it was not produced by a human.

In Europe the Court of Justice of the European Union (CJEU) has also declared on various occasions, particularly in its landmark *Infopaq* decision (C-5/08 *Infopaq International A/S* v *Danske Dagbaldes Forening*), that copyright only applies to original works, and that originality must reflect the "author's own intellectual creation." This is usually understood as meaning that an original work must reflect the author's personality, which clearly means that a human author is necessary for a copyright work to exist.

The second option, that of giving authorship to the programmer, is evident in a few countries such as the Hong Kong (SAR), India, Ireland, New Zealand and the UK. This approach is best encapsulated in UK copyright law, section 9(3) of the Copyright, Designs and Patents Act (CDPA), which states:

"In the case of a literary, dramatic, musical or artistic work which is computer-generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken."

Furthermore, section 178 of the CDPA defines a computer-generated work as one that "is generated by computer in circumstances such that there is no human author of the work". The idea behind such a provision is to create an exception to all human authorship requirements by recognizing the work that goes into creating a program capable of generating works, even if the creative spark is undertaken by the machine.

Addressing ambiguity

This leaves open the question of who the law would consider to be the person making the arrangements for the work to be generated. Should the law recognize the contribution of the programmer or the user of that program? In the analogue world, this is like asking whether copyright should be conferred on the maker of a pen or the writer. Why, then, could the existing ambiguity prove problematic in the digital world? Take the case of Microsoft Word. Microsoft developed the Word computer program but clearly does not own every piece of work produced using that software. The copyright lies with the user, i.e. the author who used the program to create his or her work. But when it comes to artificial intelligence algorithms that are capable of generating a work, the user's contribution to the creative process may simply be to press a button so the machine can do its thing. There are already several text-generating machine learning programs out there, and while this is an ongoing area of research, the results can be astounding. Stanford PhD student Andrej Karpathy taught a neural network how to read text and compose sentences in the same style, and it came up with Wikipedia articles and lines of dialogue that resembled the language of Shakespeare.

Will Robots Rule the (Artistic) World? A Proposed Model for the Legal Status of Creations by Artificial Intelligence Systems

20 Pages • Posted: 19 Jun 2017

Ana Ramalho
Maastricht University

At the present time, it is uncertain how AIs will technically evolve, and how law- and policy-makers will react to increasingly autonomous machines. In the field of copyright, we should take this uncertainty as an opportunity to rethink rationales for privatization in general, and where to place AIs creations in that equation specifically. Justifications for granting copyright protection do not fit AIs creations, and privatization through the grant of (exclusive) rights should not be readily chosen without further thought.

Rather, legislators should consider a public domain model for AIs creations. Indeed, that stems from the fact that the public domain is the natural alternative path to privatization. But more than that, placing AIs creations in the public domain allows for creation of new knowledge and easier access to information, to name only a few advantages. The attribution of AIs creations to the public domain should be coupled with the establishment of a "disseminator right" as a tool to ensure that AI creations reach the public. The design of such right should however not endanger the public domain nature of AIs creations, and should therefore be limited in scope.

http://copyrightblog.kluweriplaw.com/2018/09/25/singularity-copyright-challenges-artificial-intelligence/

Artificial Intelligence and Copyright - Ownership

EU copyright, quo vadis?

From the EU copyright package to the challenges of Artificial Intelligence

Brüssels, 25. May 2018

Professor dr. juris Ole-Andreas Rognstad

Rognstad then discusses possible alternatives to this scenario. The first is to allocate ownership to the AI system. However, there appears to be no solid justification to do so from the perspective of incentive theory or the recognition of legal personality for AI systems.

The second is to consider AI generated outputs as “works made for hire”, as recognized e.g. in US law (Sec. 101 of the Copyright Act), and to create a legal fiction that the AI system is “employed”. Still, this approach does not fit neatly into the EU legal system, under which it might make more sense to recognize “sui generis” solutions.

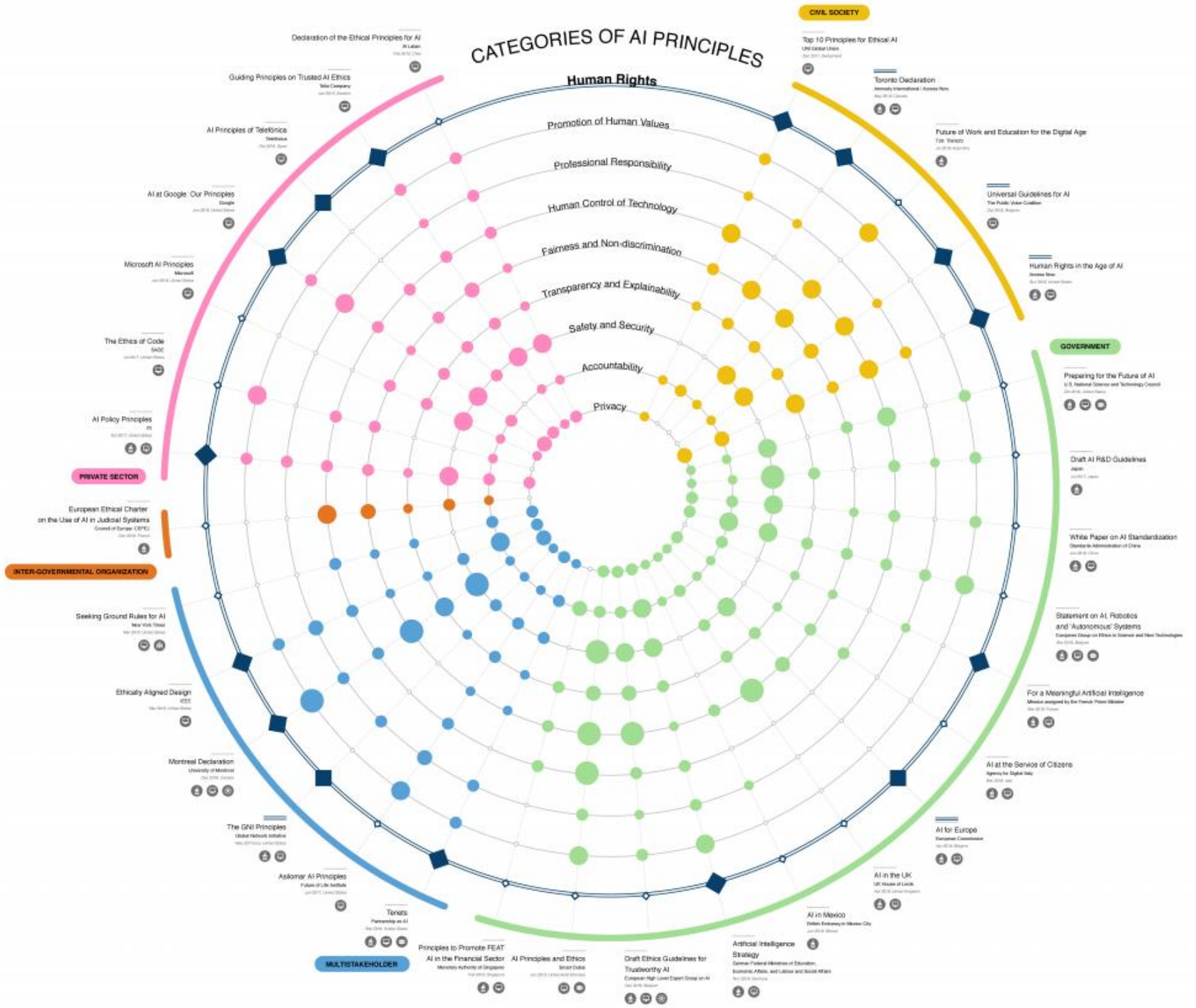
These could center for example on the allocation of rights to the (i) producer, (ii) owner, or (iii) user of AI systems. In the end, however, it is challenging to justify copyright protection for AI generated outputs or the need to define novel ownership rules. In fact, Rognstad wondered whether AI “creations” should not be deemed part of the public domain, with the legal regime allowing for the possibility of interested parties invoking (national) rules external to copyright, such as **unfair competition**.

Para onde vai a “corrida do ouro”?

1. Princípios **éticos**
2. **Estratégias** nacionais
3. Panorama da **legislação** brasileira

Saúde, Consumo, Administração Pública, Mercado de Valores Mobiliários, Propriedade Intelectual

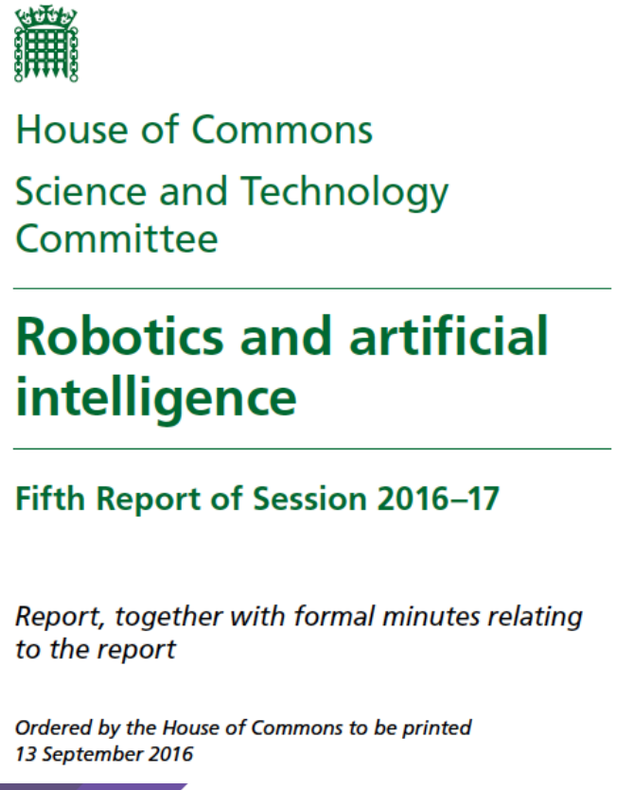
princípios éticos


CATEGORIES OF AI PRINCIPLES
Human Rights
Promotion of Human Values
Professional Responsibility
Human Control of Technology
Fairness and Non-discrimination
Transparency and Explainability
Safety and Security
Accountability
Privacy
CIVIL SOCIETY
Top 10 Principles for Ethical AI
Toronto Declaration
Future of Work and Education for the Digital Age
Universal Guidelines for AI
Human Rights in the Age of AI
GOVERNMENT
Preparing for the Future of AI
Draft AI R&D Guidelines
White Paper on AI Standardization
Statement on AI, Robotics and 'Autonomous' Systems
For a Meaningful Artificial Intelligence
AI at the Service of Citizens
AI for Europe
AI in the UK
AI in Mexico
Artificial Intelligence Strategy
Draft Ethics Guidelines for Trustworthy AI
AI Principles and Ethics
Principles to Promote FEAT AI in the Financial Sector
Tenets
Asilomar AI Principles
The GNI Principles
Montreal Declaration
Ethically Aligned Design
Seeking Ground Rules for AI
MULTISTAKEHOLDER
INTER-GOVERNMENTAL ORGANIZATION
European Ethical Charter on the Use of AI in Judicial Systems
AI Policy Principles
The Ethics of Code
Microsoft AI Principles
AI at Google: Our Principles
AI Principles of Telefónica
Guiding Principles on Trusted AI Ethics
Declaration of the Ethical Principles for AI
PRIVATE SECTOR

estratégias nacionais

Revisão de 20 estratégias nacionais ou regionais

Alemanha, Austrália, Canadá, China, Cingapura, Comissão Europeia, Coréia do Sul, Dinamarca, Emirados Árabes Unidos, Estados Unidos da América, Finlândia, França, Índia, Itália, Japão, México, Reino Unido, Suécia e Taiwan


House of Commons

Science and Technology Committee

Robotics and artificial intelligence

Fifth Report of Session 2016–17

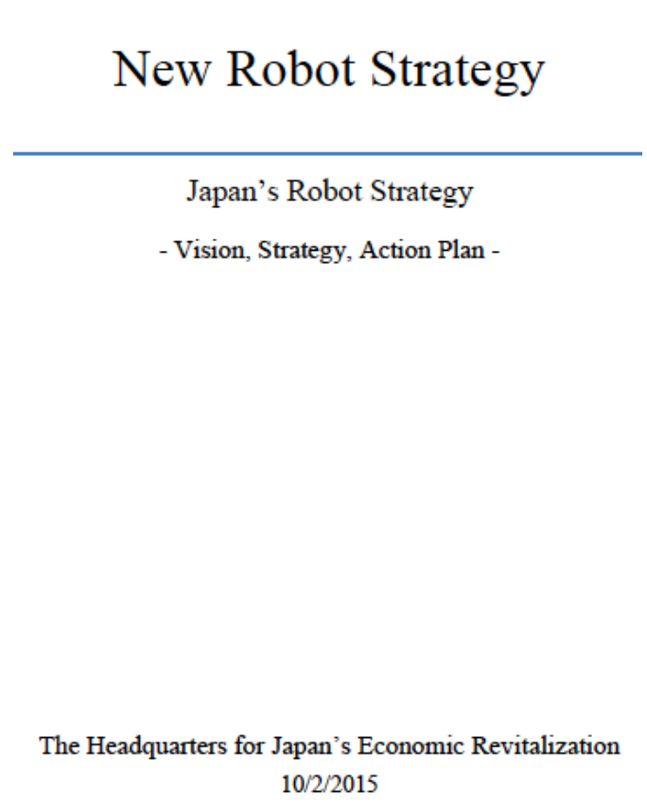
Report, together with formal minutes relating to the report

Ordered by the House of Commons to be printed 13 September 2016


PREPARING FOR THE FUTURE OF ARTIFICIAL INTELLIGENCE

Executive Office of the President
National Science and Technology Council
Committee on Technology

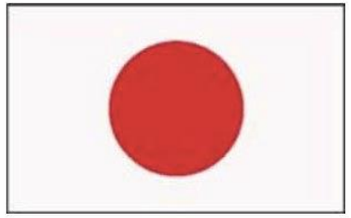
October 2016


New Robot Strategy

Japan's Robot Strategy

- Vision, Strategy, Action Plan -

The Headquarters for Japan's Economic Revitalization
10/2/2015



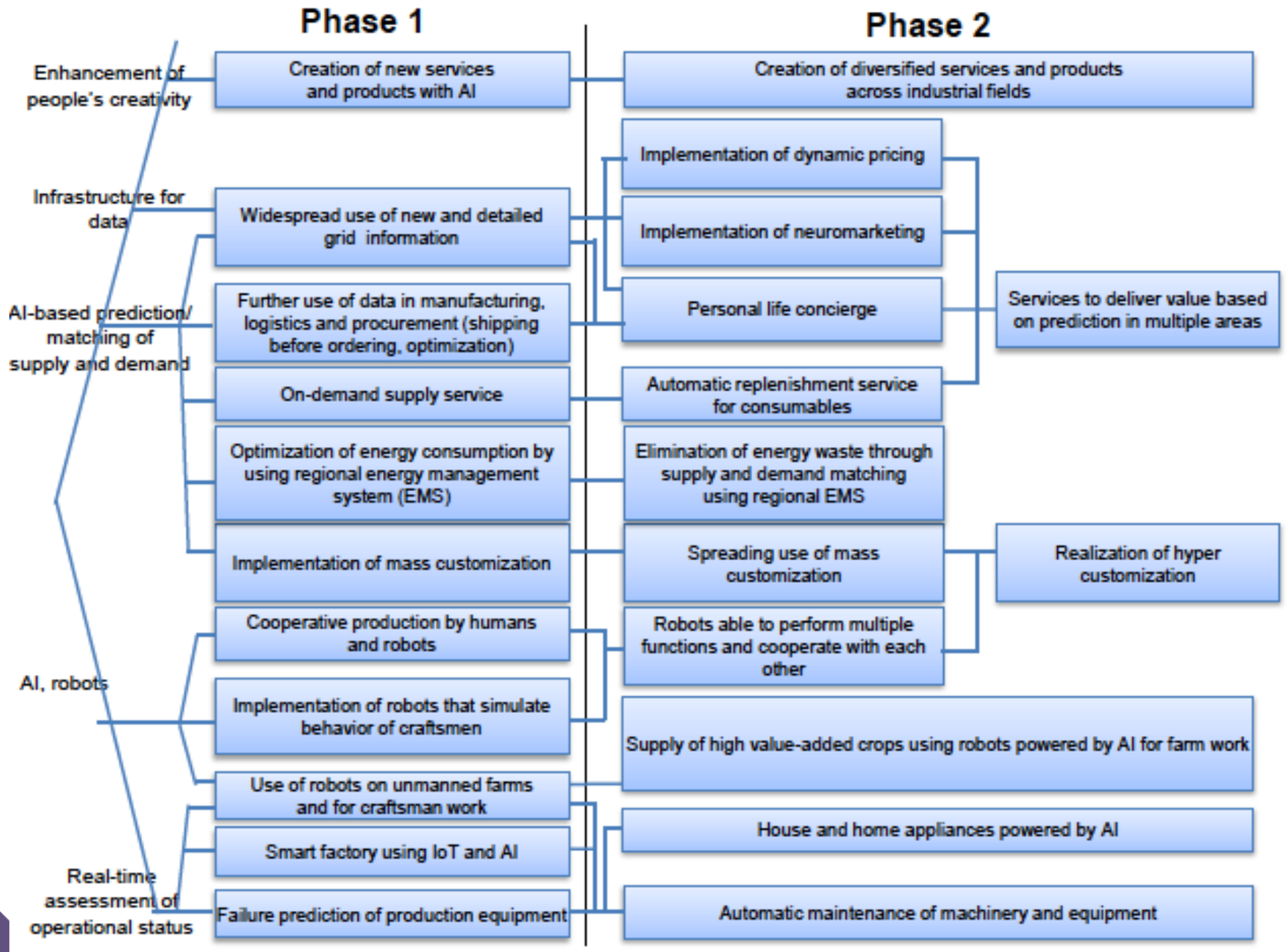
Subsection 1 Japan as a robotics superpower

Robots have become rapidly common in Japan since the 1980's primarily in the manufacturing sector. In particular, the automobile, electric and electronic industries showed a significant growth against the backdrop of greater labor productivity in line with the full-fledged employment of robots as the major destination for supply of robots. It goes without saying that these industries have played an active role for Japan to usher in an era of *Japan as No. 1* driven indeed by the utilization of robots.

In addition, robots have always been in the spotlight in Japan for diverse potentials and there have been noteworthy innovative achievements such as pet-like robots aiming to provide comfort and surprise to human or world-leading research and development on human-shaped robots and study of service robots.

Once a "robot barrier-free society" comes true, there will be routine collaboration between robots and human of all ages from children to seniors. Robots will help release human from cumbersome tasks and enrich interaction for a higher quality of life than ever. In addition, taking full advantage of robots for greater safety, comfort and attractiveness of a community will contribute to the formation of a highly attentive and convenient community that human alone may not come by.

Industrialization Roadmap (Productivity)



A society where innovative services and products are continuously developed - Moving from manufacturing to value creation -

- **Prevalence of creative products and services**
  Products and services that go beyond established concepts are fused and continuously developed.
- **Realization of subconscious desires**
  People find things they really want and which cause them to realize new value.
- **High value-added items become familiar**
  Autonomous robots enable stable and high-quality production indoors and outdoors, realizing a zero-waste society.
- **Careful delivery**
  Necessary items are available at reasonable prices when needed.

State Council Notice on the Issuance of the Next Generation Artificial Intelligence Development Plan

Completed: July 8, 2017
Released: July 20, 2017

First, by 2020, the overall technology and application of AI will be in step with globally advanced levels, the AI industry will have become a new important economic growth point, and AI technology applications will have become a new way to improve people's livelihoods, strongly supporting [China's] entrance into the ranks of innovative nations and comprehensively achieving the struggle toward the goal of a moderately prosperous society.

Second, by 2025, China will achieve major breakthroughs in basic theories for AI, such that some technologies and applications achieve a world-leading level and AI becomes the main driving force for China's industrial upgrading and economic transformation, while intelligent social construction has made positive progress.

Third, by 2030, China's AI theories, technologies, and applications should achieve world-leading levels, making China the world's primary AI innovation center, achieving visible results in intelligent economy and intelligent society applications, and laying an important foundation for becoming a leading innovation-style nation and an economic power.

UMA SEMANA DE IMERSÃO NA MAIOR POTÊNCIA EMERGENTE DO MUNDO

ITS CHINA DIVE

Por que 9 dias na China me deixaram apavorado...

Lucas Marques
COO no Méliuz

Published on June 27, 2019

EMMANUEL MACRON TALKS TO WIRED ABOUT FRANCE'S AI STRATEGY

The key driver should not only be technological progress, but human progress. This is a huge issue. I do believe that Europe is a place where we are able to assert collective preferences and articulate them with universal values. I mean, Europe is the place where the DNA of democracy was shaped, and therefore I think Europe has to get to grips with what could become a big challenge for democracies.

In the US, it is entirely driven by the private sector, large corporations, and some startups dealing with them. All the choices they will make are private choices that deal with collective values. That's exactly the problem you have with Facebook and Cambridge Analyticaor autonomous driving. On the other side, Chinese players collect a lot of data driven by a government whose principles and values are not ours. And Europe has not exactly the same collective preferences as US or China. If we want to defend our way to deal with privacy, our collective preference for individual freedom versus technological progress, integrity of human beings and human DNA, if you want to manage your own choice of society, your choice of civilization, you have to be able to be an acting part of this AI revolution . That's the condition of having a say in designing and defining the rules of AI. That is one of the main reasons why I want to be part of this revolution and even to be one of its leaders. I want to frame the discussion at a global scale.

FOR A MEANINGFUL ARTIFICIAL INTELLIGENCE

TOWARDS A FRENCH AND EUROPEAN STRATEGY

Building a Data-Focused Economic Policy

In this area AI heavyweights, such as China and the US, and emerging AI powers, such as the UK Canada and Israel, are developing extremely different approaches. Thus, France and Europe will not necessarily take their place on the world AI stage by creating a "European Google", instead they must design their own tailored model.

Promoting Agile and Enabling Research

The French academic research is at the forefront of worldwide exploration on mathematics and artificial intelligence, but the country's scientific progress does not always translate into concrete industrial and economic applications. The country is hit by the brain drain towards US heavyweights, and training capabilities on AI and data science fall well short of requirements.

Ethical Considerations of AI

Recent AI-led progress across a number of sectors (self-driving cars, image recognition, virtual assistants) and its increasing influence on our lives are driving public debate on the issue. This debate included extensive analysis of the ethical challenges raised by the development of artificial intelligence technologies and more broadly speaking by algorithms. Far from the speculative considerations on the existential threats of AI for humanity, the debate seems to focus on algorithms that are already present in our daily lives and that can have a major impact on our day-to-day existence.

Inclusive and Diverse AI

Artificial intelligence must not become a new way of excluding parts of the population. At a time when these technologies are becoming the keys to opening the world of the future, this is a democratic requirement. AI creates vast opportunities for value creation and the development of our societies and individuals, but these opportunities must benefit everyone across the board.

SUMMARY OF THE 2018 WHITE HOUSE SUMMIT ON *ARTIFICIAL INTELLIGENCE FOR AMERICAN INDUSTRY*

*"We stand at the birth of a new millennium, ready to **unlock the mysteries** of space, to free the Earth from the miseries of disease, and to **harness the energies, industries** and **technologies of tomorrow.**"*

– President Donald J. Trump

- **Supporting the national AI R&D ecosystem.** America is blessed with a unique R&D ecosystem that taps into the limitless bounds of American ingenuity. Attendees discussed our free market approach to scientific discovery that harnesses the combined strengths of government, industry, and academia and examined new ways to form stronger public-private partnerships to accelerate AI R&D.

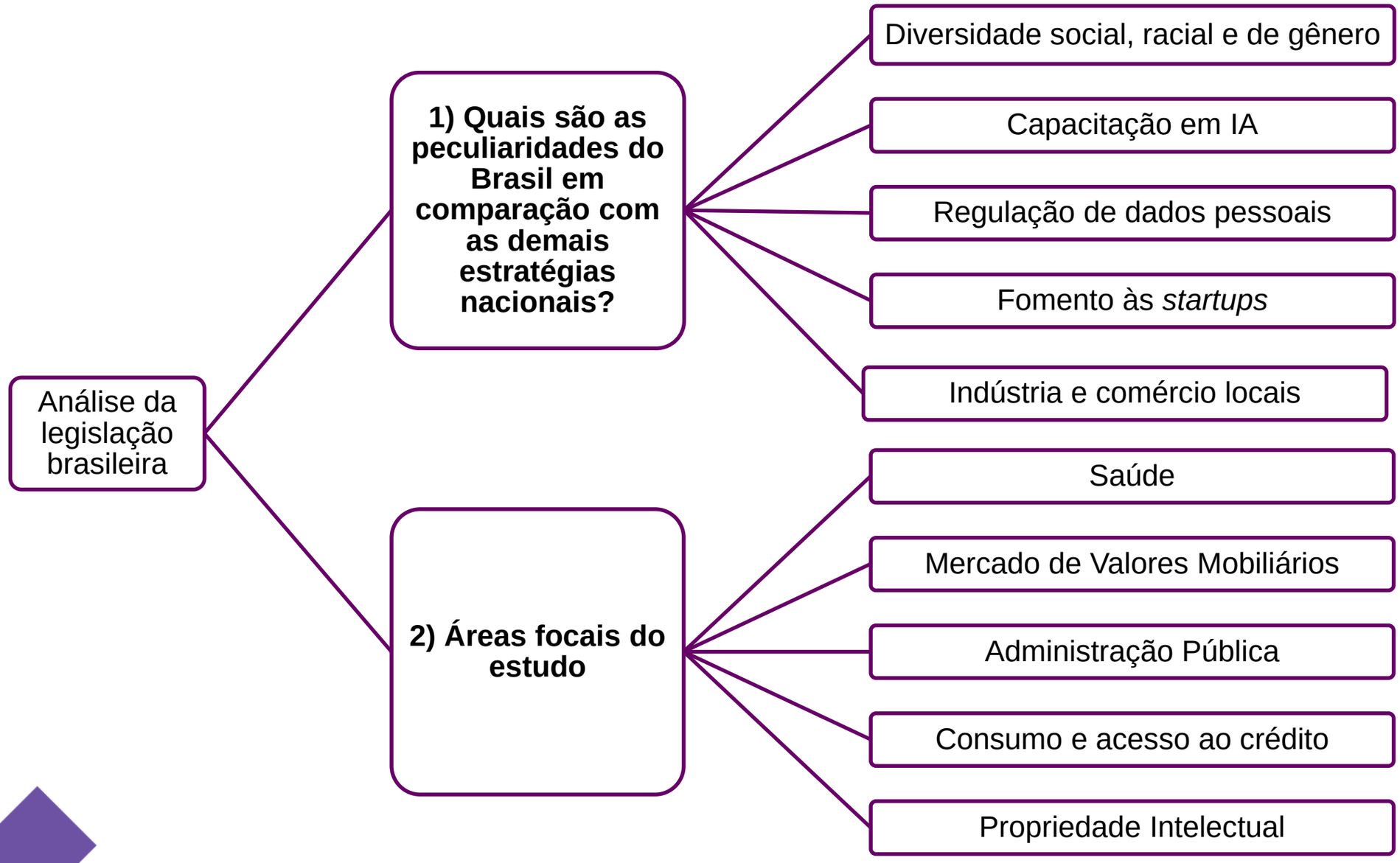
- **Developing the American workforce to take full advantage of the benefits of AI.** AI and related technologies are creating new types of jobs and demand for new technical skills across industries. At the same time, many existing occupations will significantly change or become obsolete. Attendees discussed efforts to prepare America for the jobs of the future, from a renewed focus on STEM education throughout childhood and beyond, to technical apprenticeships, reskilling, and lifelong learning programs to better match America's skills with the needs of industry.

- **Removing barriers to AI innovation in the United States.** Overly burdensome regulations do not stop innovation – they just move it overseas. Participants in this session addressed the importance of maintaining American leadership in AI and emerging technologies, and promoting AI R&D collaboration among America's allies. Participants also raised the need to promote awareness of AI so that the public can better understand how these technologies work and how they can benefit our daily lives.

- **Enabling high-impact, sector-specific applications of AI.** Finally, attendees organized into industry-specific sessions to share the novel ways industry leaders are using AI technologies to empower the American workforce, grow their businesses, and better serve their customers.

legislação brasileira

Panorama do estudo



LGPD

Art. 20. O titular dos dados tem direito a solicitar revisão, por pessoa natural, de decisões tomadas unicamente com base em tratamento automatizado de dados pessoais que afetem seus interesses, inclusive de decisões destinadas a definir o seu perfil pessoal, profissional, de consumo e de crédito ou os aspectos de sua personalidade.

§ 1º O controlador deverá fornecer, sempre que solicitadas, informações claras e adequadas a respeito dos critérios e dos procedimentos utilizados para a decisão automatizada, observados os segredos comercial e industrial.

Obrigado!

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