



• ASIA SOCIETY NORTHERN CALIFORNIA •

EXPLORING AI ISSUES ACROSS THE UNITED STATES & CHINA

INTRODUCTION

HEATHER EVANS AND BENJAMIN CEDRIC LARSEN

8/5/2020

EXPLORING AI ISSUES ACROSS THE UNITED STATES AND CHINA

INTRODUCTION

Artificial intelligence (AI) is a transformative technology that is quickly being integrated into the fabric of daily life for people around the world. As a general-purpose technology, AI drives economic growth through applications across economic sectors.ⁱ Examples can be found in all corners of our lives: deep learning applied to the drug discovery process identifies promising drug candidates by analyzing massive amounts of data; recommendation algorithms powering social media, and entertainment platforms deliver content that reflects people's preferences; facial recognition algorithms employed in CCTV cameras track pedestrians around the world; and so forth.

AS NATIONAL BORDERS DO NOT CONFINE TECHNOLOGIES SUCH AS AI, ANY EFFORTS TO GUIDE THEIR DEVELOPMENT AND APPLICATION SHOULD CONSIDER INTERNATIONAL ALIGNMENT.

Rapid advances in research and development position AI to have increasingly transformative impacts in the years to come. As such, it is imperative that norms and best practices for the responsible development and use of AI technologies are fostered at the international level.

Governments around the world have launched national AI strategies, investing significant resources into such efforts.ⁱⁱ Many strategies reference the necessity for collaboration at the international level. As national borders do not confine technologies such as AI, any efforts to guide their development and application should consider international alignment.

A number of efforts have already been driven by international forums such as the G20, industry organizations such as The Institute of Electrical and Electronics Engineers (IEEE), and multilateral institutions like the United Nations to achieve consensus on best practices for aspects of AI governance. Reaching international consensus on specific issues related to AI development and adoption is exceptionally difficult for a number of reasons, including the following:

- **AI is a rapidly evolving field, leading to a pacing problem for policymakers at any level.** AI research and application have been picking up speed over the last decade and generally tend to move faster than regulation, which makes it difficult for policymakers to follow advancements and respond accordingly.
- **AI governance guidelines must be narrow and issue or application-specific to be effective.** Many international efforts to establish global governance norms in AI are ambitious and high level. Without issue-specific guidance, however, formal governance objectives are likely to be ineffective.

- **The motivation for specific countries to collaborate on responses to some AI issues is uncertain.** AI technology is inherently “dual use” with applications in both military and civilian life. Many national AI strategies state the importance of achieving a relative national strength in the field for commercial and military purposes. Despite statements declaring a desire for international cooperation on AI development and governance, there are specific issues (e.g., facial recognition application) for which it is unlikely that international consensus can be reached.

Issues presented by AI development and deployment are global, necessitating the involvement of all nations. That said, China and the United States are essential national stakeholders in this governance process, for reasons beyond their status as permanent members of the UN Security Council.

Top AI talent has been nurtured and educated across the United States and China, with a significant proportion of top-tier global researchers (59%) currently based at American companies and institutions.ⁱⁱⁱ Each country has made explicit statements announcing a national focus on improving AI capacities.^{iv} Both nations are home to the largest internet companies in the world, which are major investors in fundamental AI research and deployment.^v

At this time, collaboration in the development, adoption, and governance of AI technologies is decreasing as bilateral tensions between the United States and China are rising. The US government has, for example, decreased the length of visas issued to graduate students holding Chinese passports who have been accepted to study in STEM disciplines at American universities.^{vi} Concerns of intellectual property theft and espionage have impacted interuniversity research collaborations, notably involving high-ranking Chinese universities with ties to military and state funding.^{vii} For many years, China has restricted access inside its borders to a number of internet websites, including those of major American companies like Google and Facebook.

EXPLORING AI ISSUES ACROSS THE UNITED STATES AND CHINA IS A PRIMER FOR POLICYMAKERS, AND OTHER INTERESTED PARTIES, THAT USES CASE STUDIES TO BETTER UNDERSTAND THE AI GOVERNANCE LANDSCAPE BETWEEN THE UNITED STATES AND CHINA.

In the current international climate, the prospect of the United States and China agreeing to joint, coordinated AI governance efforts on many issues is uncertain. However, if it is possible to support collaboration and coordinated efforts on some areas of artificial intelligence today, we hope that such efforts can build a foundation for cooperation on more contentious issues in the future

This series - *Exploring AI Issues across the United States and China* - offers insight into a suite of challenges presented by AI technologies, as well as ongoing domestic responses as implemented in the United States and China. By highlighting similarities and differences in these responses, we explore potential pathways for collaboration, as well as the obstacles that inhibit such collaboration.

Exploring AI Issues across the United States and China is a primer for policymakers, and other interested parties, that uses case studies to better understand the AI governance landscape between the United States and China.

THE GREEN-YELLOW-RED-LIGHT FRAMEWORK

Exploring AI Issues across the United States and China aims to offer a roadmap to understand convergence in approaches to AI governance between the United States and China. The series will also highlight areas where substantial divergence in approach may create systemic barriers, or irreconcilable differences, in AI governance that may be hard to overcome in the long run.

With this in mind, we have developed a Green-Yellow-Red-Light Framework to illustrate the perceived ease or difficulty of cooperation for both nations in response to the issues that we consider.



The **Green Light** in our series signifies that few barriers to cooperation exist, which may make it easier to engage in dialogue leading to cooperation with stakeholders across the United States and China.

A **Yellow Light** indicates that some barriers may need to be overcome before collaboration can take place.

The **Red Light** label suggests that substantial or structural barriers may need to be overcome before bilateral cooperation would be possible. Red Light issues may also be controversial at the domestic level.

Barriers to cooperation refer to technological, systemic, structural, cultural, and political barriers. Despite the perceived difficulty in terms of cooperation for Red Light issues, we include these issues as we attach great importance to engaging in continued consultations on differing positions and contexts of AI governance and application.

WHAT TO EXPECT FROM THIS SERIES

Over the coming weeks, the series will explore contemporary issues in AI governance across areas such as: AI Principles, Open Source environments, AI Applications in Healthcare, Deepfakes, and Application of Facial Recognition Technologies.

In each case study, we have invited an expert to introduce an area of AI technology, provide global context on the issue, and profile responses to the issue in the United States and China. Each case includes an analysis that outlines similarities and differences in approaches to AI governance and provides perspective on present obstacles and suggestions for avenues of collaboration.

WHAT TO TAKE AWAY FROM THIS SERIES

Collaboration in technology policy presents many questions. In this series, each case study explores potential paths to collaboration – each of which may look very different from the others. We recognize that while we seek to answer important questions related to global technology governance, we also leave a number of questions unanswered. Each case and analysis are structured to represent the views of our invited experts, who are commenting on AI-related issues at a particular point in time. Issues in AI governance are dynamic, however, and bilateral relations between the United States and China are constantly evolving. This series explores the potential for collaboration in some areas of AI at a time when diplomatic relations between the United States and China have been deteriorating.

The selected case studies of the series represent only the tip of the iceberg – AI is a broad field – and a growing list of questions needs to be considered in the time to come. We hope that this series will contribute to building a shared understanding of the breadth of issues related to AI, as well as some of the possible pathways for collaboration between the United States and China in addressing these challenges. In doing so, we discuss some of the concerns that need to be mitigated at the international level to secure a new and interoperable way forward.

We are excited for you to join us in this inaugural multi-part series: Exploring AI Issues across the United States and China.

UP NEXT → AI Principles in Context. In the first case study of our series, Jessica Cussins Newman, Research Fellow at the UC Berkeley Center for Long-Term Cybersecurity, focuses on the formulation of AI principles across the United States and China. Jessica discusses important similarities and differences in the formulation of AI principles and finds three key takeaways that have implications for international cooperation and engagement.

Technology and policy related to this topic are constantly evolving. If you think we have missed something or have a comment, please contact Heather Evans (hevans@asiasociety.org).

The Asia Society Northern California Center and the Asia Society take no institutional position on matters of public policy and other issues addressed in the reports and publications they sponsor. All statements of fact and expressions of opinion contained in this paper are the sole responsibility of its author and may not reflect the views of the organization and its board, staff, and supporters.

ENDNOTES

ⁱ A description of General Purpose Technologies can be found in the 1992 working paper from the National Bureau of Economics Research <https://www.nber.org/papers/w4148>.

ⁱⁱ For a comprehensive overview of National AI strategies, see the Future of Life's National and International AI List ([link](#)), and Chapter 9: "National AI Strategies and Global AI Vibrancy" of the 2019 HAI AI Index ([link](#)).

ⁱⁱⁱ The MacroPolo "[Global AI Tracker](#)" analyzed accepted papers for NeurIPS 2019, one of the most competitive and reputable academic conferences globally. The largest group of researchers (59%) is currently based in the United States. The largest group of researchers pursued their undergraduate degrees in China (29%), and the second largest (20%) in the United States. The US lead with respect to being home to the largest group of top AI researchers is the result of attracting and retaining international talent.

^{iv} A collection of these statements is accessible on the Future of Life's website with the National and International AI List ([link](#)).

^v Of the 30 largest internet companies by market capitalization in 2019, 18 were based in the United States, with 7 based in China. See page 12 of <https://www.bondcap.com/report/itr19/>.

^{vi} *Science Magazine*, "More Restrictive U.S. Policy on Chinese Graduate Student Visas Raises Alarm," June 11, 2018 ([link](#)).

^{vii} *New York Times*, "U.S. to Expel Chinese Graduate Students with Ties to China's Military Schools," May 28, 2020 ([link](#)).

Cover Artwork Designed by Kisara Moore and Anya Lassila
Traffic Light Design by Anya Lassila

Thank you to the Asia Society Northern California Team for supporting this publication.

© 2020 The Asia Society. All Rights Reserved