

# The Geopolitics of AI

## Perspectives and Implications

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2026-03-06

# The India AI Question

Do you think AI competition between the US and China will help India?

If you were advising the Indian government and had to pick just one, would you invest in building India's own AI chips, or in training a million AI engineers?

# The Big Picture

The narratives that emphasise the links between technology and national power have become more assertive. Technology will likely feature as **a means** and **an end** of geopolitical contestation this decade.

# IS/IS NOT

- ▶ compilation of frameworks
- ▶ ideas on how AI and geopolitics intersect
- ▶ competing perspectives
- ▶ globally focused, but we'll keep asking — what does this mean for India?
- ▶ not a definitive prediction
- ▶ not focused on ethics or domestic policies of AI

## Trade wars are likely to be tech competitions at their core

The emphasis on the importance of high-technology to national power means that governments are willing to incur the costs of high-technology decoupling. **This decoupling might happen at the level of materials, machines, humans, and values.** The precise pathway will be technology-specific.

# Aggressive national competition over high-technology might produce some non-linear breakthroughs this decade

When a nation-state enjoys a state of creative insecurity, its rate of innovation will tend to accelerate. (Taylor, 2016)

## There is likely to be higher alignment between private high-technology players and their national governments

- ▶ Observe Intel's stance
- ▶ Domestic Technology Industrial Policies
- ▶ Bricked stolen tractors
- ▶ Some big players will hedge. The idea of the Geopolitical Enterprise (Baums and Butts, 2024)

## We will likely encounter selective international cooperation on high-technology subject to geopolitical considerations

- ▶ iCET, AUKUS, Quad, Stargate
- ▶ Costs of fragmentation will be significant, especially on developing countries
- ▶ “A very serious decoupling scenario could cost up to 7 percent of global GDP” (Gita Gopinath, deputy managing director, IMF)

## Spin-ons » Spin-offs

Cellphones, Advanced chips, AI.

India could build nuclear weapons but can't fabricate advanced chips. Some domains are technically complex but operationally simpler. For space and nuclear sectors:

- ▶ Small output demand
- ▶ Manageable capital outlay
- ▶ Shorter supply chains that can be indigenised substantially

## AI and National Power: Major innovations can change estimations of power in three ways (Daniels and Chang, 2021)

Introduce New Elements eg.  
ICE + oil like compute

Change coefficients of  
existing factors eg.  
industrialisation + talent.  
Reliable electricity/nuclear  
power

Alter Intermediate Goals eg.  
information warfare

## Geopolitics of AI: Over compute

“it is detectable, excludable, and quantifiable, and is produced via an extremely concentrated supply chain”

- ▶ Export controls over chips, over machines used to make chips
- ▶ Executive Order 14110 mandates “large compute clusters must report back to the US government if any foreign entity uses cloud computing resources above a certain threshold.”
- ▶ The now-rescinded AI Diffusion Rules
- ▶ On-chip compute ‘governance’
- ▶ alternatives to GPUs; alternatives to CUDA
- ▶ The non-proliferation camp vs the compute as commodity camp ft. G42

## Geopolitics of AI: Over data

- ▶ data localisation
- ▶ data poisoning
- ▶ Creation of Strategic Datasets eg. US AI Action Plan
- ▶ Industrial espionage and cybersecurity breaches

## Geopolitics of AI: Over models

- ▶ model diffusion restrictions
- ▶ corrupting model weights
- ▶ new kinds of models
- ▶ open weight models vs closed weight models

## Geopolitics of AI: Over talent

- ▶ Restrictions in movement of AI scientists and engineers
- ▶ attracting foreign talent
- ▶ AI-standards setting and creating AI engineering talent

# A Framework: Instruments of AI Geopolitics

Strategic Objective	Instruments Used	Underrated Repercussions
Denial	Sanctions and Controls	Difficult to sustain; incentives for backroom deals with adversary (NVIDIA)
	Restricting the movement of AI scientists and engineers	Can slow down technical progress
	End-use restrictions	Encourages the adversary to build local capacity in a focused manner
	Investment screening	Can slow down technical progress
	Data poisoning	Retaliation
Outpace adversary	industrial espionage to steal secrets, targeted poaching	Invites stricter controls on professionals from the stealing country
	Build partnerships	Self-sufficiency is a myth
	Indigenisation and industrial policy	Difficult to sustain
	Economic Coercion	Self-damage
	Encouraging the Movement of Labour	Human Capital is the dark horse in the race for AI supremacy.
	Increase dependence and control	Helps manage the adversary's pace to an extent
Increase Supply Chain Resilience	Promote Open Source and Open Weight Models	Diffusion, trust, and adoption are faster
	Build partnerships to create a resilient AI chip supply chain	Self-sufficiency is a myth
Influence minds and actions	Data poisoning	Limited impact on national power

Figure 1: Pranay Kotasthane

## AI as Nuclear Weapons

- ▶ AI is like ‘catastrophic dual-use nuclear, chemical, and biological technologies’ (Hendrycks et. al)
- ▶ Stop diffusion at all costs
- ▶ ‘Mutually assured AI Malfunction’
  - ▶ ‘any state’s aggressive bid for unilateral AI dominance is met with preventive sabotage by rivals.’
- ▶ verification programmes (personnel checks, whistleblower programmes, off-chip and on-chip sensors)

# AI as an Arms Race (Shmid et. al, 2025)

- ▶ zero-sum race
- ▶ unitary state actors and national 'silos'
- ▶ prime motivation is security

## AI as an Innovation Race (Shmid et. al, 2025) I

- ▶ potential for positive-sum
- ▶ collaborative networks, transnational collaboration
- ▶ motivation is a mixed of economic advantage, status, security
- ▶ AI as a key technology enabling innovation; narrow definition of arms

This paper frames it as a 'Geopolitical Innovation Race'

# AI as an Innovation Race (Shmid et. al, 2025) II

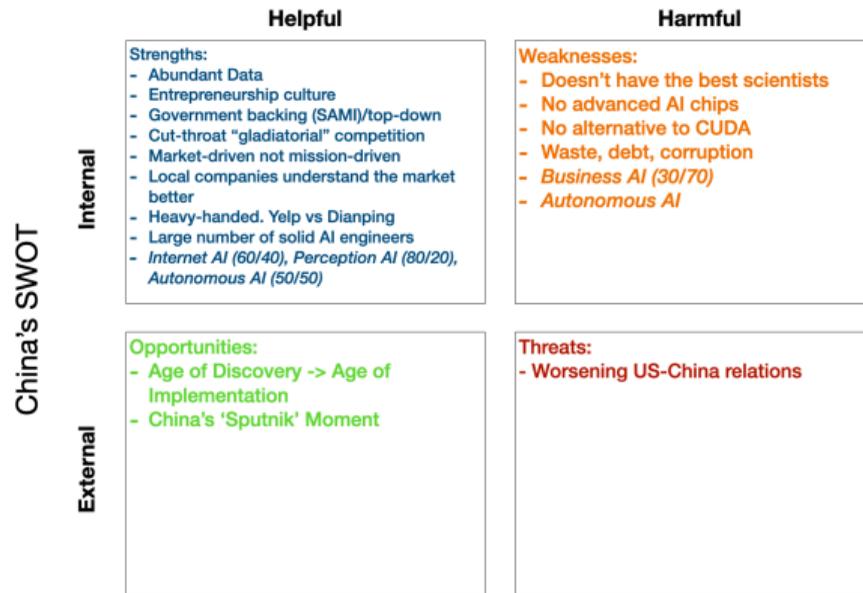


Figure 2: AI Superpowers: China AI Analysis

# AI as a General Purpose Technology

- ▶ Diffusion matters more than innovation
- ▶ Diffusion takes decades
- ▶ China faces a diffusion deficit - how fast a GPT diffuses to an average engineer. (Ding, 2024)
- ▶ Universities that have at least one researcher who has published at an established AI conference: US - 159 vs China - 29. Density matters, not overall numbers (Ding, 2024)
- ▶ GPT diffusion is not the same as QR code diffusion. Businesses, companies, and engineers are important.

## AI as a GPT (Michael J Mazarr, RAND)

*The world stands on the cusp of another technological revolution—the emergence of artificial intelligence (AI) as the latest and potentially the most wide-ranging and influential general-purpose technology in history. Like its industrial precursor, the resulting change will decide national fates and reshuffle the deck of global power. Some countries will become the Britains and Japans of this age—the dominant early leaders or the clever, determined fast followers. Others might end up as the Ottoman Empire of the AI Era, dragged down by social and political patterns disastrously mismatched to the demands of technological and industrial leadership. Still others will become the Russias of this period—large and powerful by the indices of the previous era and too potent and too determined to be ignored but not remotely competitive with the leading economies across the variety of frontier technologies and social innovations... We don't need an AI strategy. We need a strategy for national renewal and competitive advantage that uses the capabilities and opportunities of the AI Era to achieve its goals.*

## AI as a GPT (Michael J Mazarr, RAND)

- ▶ Success in the AI Era is more a societal challenge than a technological one. Seven societal characteristics essential for national competitiveness:
  - ▶ national ambition and willpower
  - ▶ unified national identity
  - ▶ shared opportunity
  - ▶ an active state
  - ▶ effective institutions
  - ▶ a learning and adaptive society
  - ▶ competitive diversity and pluralism

## The India Question

Which of these four framings would the Indian government be wisest to adopt? Why?

# Global Scenarios 2035 (Nitin Pai)

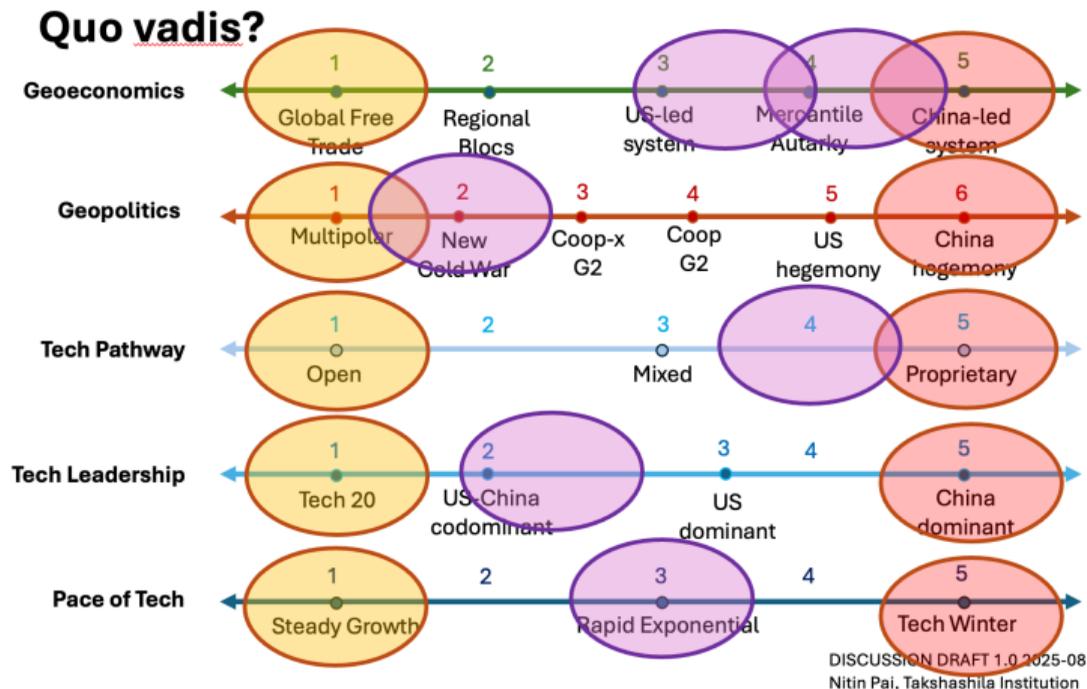


Figure 3: Source: Nitin Pai

# AGI Futures (RAND)

Table 1. Potential AGI Futures

<b>Situation</b>	<b>AGI Development Empowers the United States</b>	<b>AGI Development Empowers U.S. Adversaries</b>	<b>AGI Development Disempowers the United States and U.S. Adversaries</b>	<b>AGI Development Is Halted</b>
Multiple actors tightly race to develop AGI (decentralized development)	Scenario 1: Multilateral Coalition of Democracies Leads	Scenario 2: Cold War 2	Scenario 3: The Wild Frontier	Scenario 4: The Corked Bottle
One actor leads AGI development (centralized development)	Scenario 5: The New '90s: (U.S. Leadership)	Scenario 6: Authoritarian Advantage (PRC Dominance)	Scenario 7: The AGI Coup	Scenario 8: Mushroom Cloud Computing (War)

SOURCE: Analysis of existing literature and interviewees' input.

NOTE: PRC = People's Republic of China.

Figure 4: Source: Pavel et. al, RAND

## References

1. *AI Superpowers* by Kai-fu Lee
2. *A New Age of Nations: Power and Advantage in the AI Era* by Michael J Mazarr
3. *Technology and the Rise of Great Powers: How Diffusion Shapes Economic Competition* by Jeffrey Ding
4. *Superintelligence Strategy* by Dan Hendrycks, Eric Schmidt, and Alexandr Wang
5. *How Artificial General Intelligence Could Affect Rise and Fall of Nations* by Barry Pavel et. al
6. *Arms Race or Innovation Race? Geopolitical AI Development* by Stefka Schmid et. al
7. *The Politics of Innovation* by Mark Zachary Taylor
8. *National Power After AI* by Matthew Daniels and Ben Chang

# Homework: Can you build an India AI SWOT like the China one?

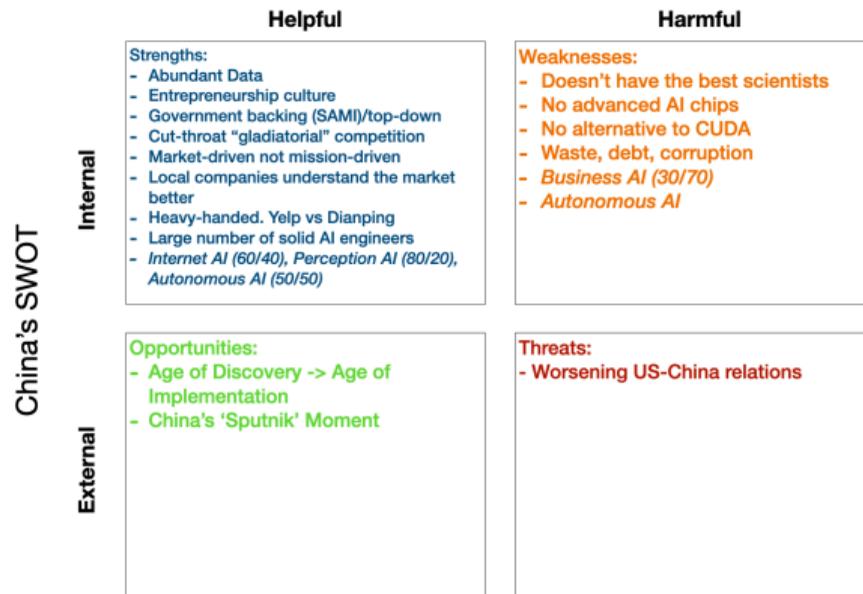


Figure 5: AI Superpowers: China AI Analysis

## The Question (Again)

Do you think AI competition between the US and China will help India?