



National Security Journal

<https://nationalecurityjournal.nz>

Published by:
Centre for Defence
and Security Studies,
Massey University

ISSN: 2703-1926 (print) ISSN: 2703-1934 (online)

New Security Dilemma: Hype, Paranoia, and Vested Interests in the AI Development Race

Author: Alves, J.

To cite this article: Alves, J. (2026). New Security Dilemma: Hype, Paranoia, and Vested Interests in the AI Development Race. *National Security Journal*. Published 20 October 2026. doi: 10.36878/nsj20261020.05

To link to this article: <https://doi.org/10.36878/nsj20261020.05>

NEW SECURITY DILEMMA: HYPE, PARANOIA, AND VESTED INTERESTS IN THE AI DEVELOPMENT RACE

Justin Alves¹

Rapidly evolving technologies continue to shape the operating environment of security professionals. This article critically assesses how New Zealand security professionals respond to the pace and intensity of the race to develop artificial intelligence. An examination of relevant academic literature, augmented by several interviews conducted with subject-matter experts, shows that the development race is driven not only by measurable technological factors, but also by subjective forces such as hype, fear of missing out, vested commercial interests, and geopolitical paranoia. This suggests the race to develop artificial intelligence poses a new serious and complex security dilemma. Challenging conventional thinking that sees artificial intelligence in world revolutionary terms, this article argues that New Zealand's approach aligns with the expert knowledge and is reasonable given it lacks the economies of scale of larger states. For New Zealand policymakers, the challenge lies in balancing the need to remain competitive as a sophisticated adopter while resisting distorted threat perceptions and premature or misdirected investment driven by hype rather than careful analysis. This content of this article will help inform those New Zealand policymakers who are obliged to understand the security dimensions of this development race.

Keywords: Artificial Intelligence, Media Framing, Technology Regulation, Autonomous Weapons Systems, Geopolitical Rivalry, Deepfakes, Misinformation.

¹ Justin Alves holds a Master of International Security from the Centre of Defence and Security Studies, Massey University, New Zealand, which was kindly sponsored by his employer, the Ministry of Business, Innovation and Employment. Correspondence with the author can be addressed to the Editors in Chief j.m.battersby@massey.ac.nz or d.r.rogers@massey.ac.nz

Introduction

According to the Organisation for Economic Cooperation and Development, “[a]n [artificial intelligence (AI)] system is a machine-based system that can, for a given set of human objectives, make predictions, recommendations, or decisions influencing real or virtual environments. AI systems are designed to operate with varying levels of autonomy.”¹ There are two main types of AI. The first, and humanity’s current evolution of AI, is ‘narrow artificial intelligence’ or systems designed to do deliberately constrained tasks, such as the famous AlphaGo system designed to play the board game Go.² Narrow AI are relatively advanced, autonomous systems or machines which act to achieve set goals.³ At the other end of the spectrum is the as-yet unbuilt artificial general intelligence and, evolving from that, artificial super intelligence. This would likely be a system functionally capable of developing its own solutions to problems, of thinking for itself, and potentially setting its own tasks autonomously.⁴ What follows focuses exclusively on narrow AI because most experts agree that humanity is many decades away from achieving artificial general intelligence – assuming it is even possible.⁵

As a rapidly evolving technology, AI has both strengths and weaknesses. Its strengths include an ability to assimilate vast quantities of data from multiple sources with near perfect retention, a lack of biological weaknesses such as boredom or the need to sleep, and a capability to update and upgrade itself at a scale and pace biological beings cannot match.⁶ Another strength is its scalability and parallel processing ability.⁷ AI programmes can also be copied and mass produced: for example, a single AI trained to a level where it can defeat “Top Gun” fighter pilots who took years and millions of dollars to train can be copied and replicated thousands of times at little cost.⁸ Its weaknesses include its massive reliance on training data, either (expensively) tagged by humans as in supervised machine learning or unstructured data as in unsupervised machine learning, the quality of which in turn shapes its accuracy and behaviour. Other weaknesses include a lack of reflection (which is a particular issue when ingesting biased data or interpreting unusual contexts) and, of course, its lack of any corporeal body by which to physically affect its environment.⁹

New Zealand’s response to the development of AI is multifaceted. While AI has been a topic of discussion within the New Zealand business community for some time, with the AI Forum New Zealand (Te Kāhui Atamai Ihiko o Aotearoa) being founded in 2017, a national strategy for AI was not released until 2025.¹⁰ This was relatively slow uptake compared to, for example, the United Arab Emirates, which established a dedicated ministerial portfolio for AI in 2017.¹¹ The New Zealand Defence sector’s view of AI is ambiguous; the Defence Capability Plan (2025) makes no mention of AI at all, even when describing investments needed in the information domain, but comprehensively discusses its implications in a subsequent paper which focusses beyond 2035.¹² This may reflect a view within the defence sector that AI’s use in the military sphere is still in its infancy and must build up its credibility with military professionals before it

can perhaps one day be relied upon as a fellow human combatant would. Alternatively (or as well) it may simply reflect reluctance by Defence to telegraph intent and capabilities in a public-facing document.¹³ New Zealand's National Security Strategy describes AI as a driver in the context of New Zealand living in an era of disruption, which will create opportunities but also, potentially, highly disruptive social and economic changes.¹⁴ It also notes the potential for misuse of AI by nation-states and criminal groups, as well as the difficulty in creating international ethical standards for AI necessary for establishing guardrails to constrain that misuse.¹⁵ The New Zealand Government's AI strategy highlights the high capital investment costs of developing AI and the importance of New Zealand, as a small country, seeking to be a 'sophisticated adopter' rather than a producer of AI.¹⁶

To critically assesses how New Zealand security professionals respond to the pace and intensity of the race to develop artificial intelligence, the article brings together existing expert knowledge on AI from both relevant academic literature and subject-matter experts to offer an informed discussion of five themes of contemporary significance: namely, that artificial intelligence will transform global society; the desire for first-mover advantage is a key driver in the AI race; the role media plays in sustaining public interest in the AI race; the lack of regulation resulting in little governmental control restraining the AI development race; and the development race for AI, resembling an arms race, may well constitute a new security dilemma. The literature review considered over 50 published papers with a focus on the competition to develop AI and its effects on business and geopolitics, including international security. To compliment the literature review, interviews were undertaken with six experts on AI, computer science, international security and international relations. These experts were not known to the author before undertaking this research, did not know each other, and were based variously in New Zealand, Thailand, Singapore, and China. The interviews were recorded and transcribed, and written approval of the transcription obtained from each expert before its use in this research. The interviews are anonymised and referred to as identifiers I1, I2 etc. The sample size limitation in the use of only six interviewees is recognised; however, their broad array of backgrounds was designed to partly compensate for this. Another limitation is the lack of any input from AI companies – efforts to set up such interviews were not successful. Lastly, as the experts were all citizens of New Zealand or the United States (albeit some living overseas), there is a risk of associated bias which must be acknowledged.

By comparing New Zealand's current response to AI against expert knowledge, the article also reflects upon what effects, if any, the AI race could have on international security in the near-term, and how might this affect New Zealand.¹⁷ The current accepted wisdom is that AI will be the key driver of the Fourth Industrial Revolution, resulting in highly significant (and potentially destabilising) changes across virtually all sectors, including society, military and economic.¹⁸ While this may transpire to be

true, at present the hard evidence to support this narrative remains limited. The key proposition made by this article is that prosaic, subjective factors such as hype, paranoia and fear of missing out regarding AI, may be more powerful drivers of the AI race than objective metrics such as AI algorithm speed and semiconductor capacity. The AI race may still influence strategic decision-making even in the face of currently limited empirical evidence of advantage. Over the short to medium term, inter-state paranoia and fear-of-missing-out regarding AI mean that the AI race will likely impact international security even if AI products emerge to be less effective than claimed. Nonetheless, states learning how to differentiate hype from reality and invest in AI appropriately will likely gain an advantage over those which do not, and this is an important consideration for smaller states such as New Zealand.

The article argues that New Zealand's current government strategy regarding AI is well-considered but entered comparatively late into the race.¹⁹ It is notably unquestioning regarding the presumed benefits of AI for business, despite for instance, one empirical study in the United States concluding the fiscal benefits of AI to be "zero" for 95% of businesses that tried to deploy it.²⁰ The race to develop and implement AI - while simultaneously worried about rivals doing the same but faster - can have a powerful insecurity multiplier effect and this should be kept in mind when making prioritisation and investment decisions. New Zealand cannot opt out of the AI race without risk of compromising future competitiveness in many critical spheres. However, New Zealand needs to be wary of the "AI hype-cycle" and vested commercial interests of corporations producing and selling AI. The purpose of this article is not to provide recommendations or refute the future benefits of AI. It is to increase awareness of the powerful role of hype and paranoia in elevating the relative importance of AI to security-professional and government decision-makers, in the hope of contributing towards carefully considered policy and investment choices.

Fourth Industrial Revolution

The vast majority of views found in the academic literature asserts that AI will prove tremendously transformative across global society. In their *Emerging Technologies and International Security – Machines, The State, and War*, for instance, Steff, Burton, and Soare (2021) draw parallels to nuclear energy and electricity in respect of its transformational power.²¹ In their paper 'Strategy in the Age of Artificial Intelligence,' Ayoub and Payne (2016) argue that AI will provide distinct strategic advantages to those who can employ it and that, as strategy is inherently dynamic and adversarial, this will in turn alter the balance of power among states.²²

The theme of AI being the Fourth Industrial Revolution (with the other three being steam power in the 18th century, electricity and telecommunications in the 19th century, and digital technology and the internet in the late 20th century) is repeated across the literature, and several states already use it to frame their national vision for AI.²³

Militarily speaking, AI has been claimed to be the “third revolution in warfare” after gunpowder and nuclear weapons. However, like steam and electricity in the industrial revolutions before it, the real power of AI lies in its ability as an enabler.²⁴ Genetic engineering, quantum computing, nanotechnology, and robotics have been highlighted as particularly transformative (and disruptive) technologies which AI has the ability to “turbocharge,” and nanoscale technologies themselves, such as molecular electronics, have the ability to “turbocharge” AI processing speed in return.²⁵ In real terms, AI can operate in a number of dimensions including directing physical objects, such as vehicles or munitions, interpreting data in many forms including text, pictures, video and audio, and can be used for new forms of forecast planning or command and control.²⁶

Experts agreed with the academic literature that AI will prove to be transformative in the longer term, though they held a wide variation of opinions over when that threshold would be reached. I2 noted that AI was “like the Industrial Revolution all over again” and has a use-case for virtually any sector, with future humanity at some point looking back and referring to the “pre-AI era.”²⁷ I3 also highlighted how economic growth theories suggest human capital alongside technological progress will be the key driver for economic progress and noted that multiplying this via AI would have a transformative effect.²⁸ I4 mirrored the human capital argument made by I3 when they stated:

The transformation is going to be monumental: larger than the electrification of society and the internet combined because we’re talking about human thought. And we are approximating it, and we are packaging it, and we are in a very rapid way getting to the point where we can use it in lieu of actual human thought and reasoning.²⁹

The literature review found a lack of significant contrary arguments relating to AI’s assumed future effectiveness, with neither the literature nor experts challenging the assumption that AI will usher in a ‘Fourth Industrial Revolution’ over the long term, even if definitions of ‘long term’ can vary significantly. AI’s value and utility in the short-to-medium term (out to ten years) is less unanimously accepted, and here the concept of ‘AI winters’ is significant. AI winters emerge from repeating hype cycles of overpromising and underdelivering AI outcomes, typically due to challenges in translating narrow successes in AI into broad usefulness in a reliable way, with even genuine technological breakthroughs typically accompanied by exaggerated claims by entities with vested financial interests overselling the capabilities of the systems.³⁰ The past two AI winters (1974-1980 and 1987-1993) resulted in corresponding sharp declines in public interest and financial investment.³¹ Both I1 and I6 tacitly referred to the risk of a new, third AI winter when cautioning that it remained to be seen *when* AI would deliver on all the grand claims made for it: “AI could be completely transformative in the next 25 years if certain breakthroughs are made, or it could be looked back on as an embarrassing cul-de-sac if breakthroughs aren’t made and it stays more or less what it is now.”³²

This caution about AI hype is, however, not currently reflected in the global stock market. Out of the world's top ten companies in 2026 by market capitalisation, nine of them either produce AI (Apple, Meta, Microsoft and Alphabet), produce the hardware which powers AI (Nvidia, Broadcom and TSMC), or are highly dependent on AI for their business (Amazon and Tesla).³³ Of particular note is the tremendous rise of chip maker Nvidia, with a current US\$5 trillion valuation, mostly due to the discovery that the computer game graphics chips it historically specialised in emerged to also be highly effective for AI calculations.³⁴ This resulted in the United States including the highest-powered gaming chips in its 2022 list of technology banned for export to China, although this softened slightly to a "case-by-case review under certain conditions" in January 2026.³⁵ These export controls on critical semiconductors are but one small example of the growing AI race: a competition between big tech corporations, research institutions, and nation states to develop powerful AI faster than their rivals in order to achieve and hold a position of comparative advantage.

First-mover advantage

According to the academic literature, no single concept holds greater perceived value in the race to develop AI than 'first-mover advantage' to seize and maintain strategic advantage against competitors, both at the commercial and also geostrategic level.³⁶ 'First-mover advantage' is defined in this article to mean, simply, being the first to enter an AI product into a particular market. Concern that first-movers could not just capture the majority of market share but also become very difficult to unseat – cementing a big-tech AI monopoly potentially possessing more influence than many nation-states – is also well borne out in the literature. Horowitz *et al* cite evidence of the sustainable first-mover advantage of the United States in the Third Industrial Revolution of microelectronics and computing from the 1980s, which it continues to enjoy to this day both commercially and militarily.³⁷ AI algorithms are software and, as such, diffuse quickly and easily, either deliberately (via sales) or via espionage.³⁸ On the other hand, military-specific AI hardware and software applications, if held secret, are likely to be highly proprietary and more easily secured from imitators and competitors for longer.³⁹ The actual production of cutting-edge AI is out of reach for most nations and companies because it requires both very large and also the right sets of data for AI to be trained on, as well as expensive semiconductors, computing resources and an AI-capable talent pool.⁴⁰

All experts interviewed for this research concurred that, even acknowledging the high diffusion inherent in AI development, first-mover advantage was still important for commercial and strategic reasons – with some caveats. I2 noted that with AI, the fastest and smartest adopters are likely to get the advantage; if a country or big tech company becomes known as a hotbed of innovative development, then it is likely to attract investment potentially along with migration associated with it.⁴¹ I4 suggested that as

everything is constantly moving forward in AI development without pause, achieving breakthroughs conveys significant economic advantage. As proprietary AI systems are notoriously opaque even to their designers, it can become very challenging for competing companies to catch up. According to I4:

I imagine it's going to be very difficult to catch any front runners in a particular field... It becomes almost impossible even to compare what you're doing to an existing product, and it's difficult to sell it. You only know what comes in and what comes out. So against first movers, I imagine it'd be very challenging for a competitor even to establish themselves as a competitor.⁴²

Early launch dominance brings early brand name recognition. For example; although there are many large-language models (LLM) and search engines, many people think of OpenAI's ChatGPT first (and perhaps only) while Google has become a verb in everyday language (to "google" something).⁴³

Additionally, experts highlighted that algorithms can be kept proprietary via both legal means (such as trade and intellectual property protection) and technical means, such as a sealed server which only sends back results from queries.⁴⁴ From this, it is suggested that what AI algorithms do widely diffuse will either only be the second-best or quickly superseded anyway by the incumbent AI hegemon. The assumption in much of the literature that AI first-mover advantage would provide a significant military edge was challenged by I1: "First move to what? That's the question here. It's not really obvious how AI could be deployed at this point in order to so significantly increase the military power of one state over another that it would fundamentally transform the balance of power."⁴⁵

It can also be argued that first move only provides advantage if the AI product actually works well. I5 observed that being first mover necessitated "showing your hand" to your opponents, which could be disastrous if they held better "cards."⁴⁶ I6's statements aligned with this, adding that if one state rapidly deployed an AI tool which failed (perhaps due to lack of due diligence in testing) it could even be a massive disadvantage.⁴⁷ Little of these concerns are reflected in AI literature or media however, which persists with promoting a general narrative that, in a competitive world, first-mover advantage in AI production is critical.

Media narrative about AI

Research of popular media discussing AI indicates an almost exclusive narrative of the importance and significance of AI, with the release of LLM such as OpenAI's ChatGPT in 2022 becoming the fastest growing user application in history and providing a demonstration to the wider public of AI's potential.⁴⁸ In this way, media narrative drives the AI

race by keeping it in the public's attention. Media articles about AI rose almost sixfold from 2010 to 2018 and the character length of articles increased 39% from 2010 to 2020, reflecting its increased story value.⁴⁹ This volume decreased from a peak in 2018, perhaps reflecting a slump in the technology's hype cycle.⁵⁰ Nonetheless, AI remains a constant feature in contemporary media to the point where AI now writes articles itself under pseudonyms.⁵¹ As media about AI includes popular movies, news articles, and blogs, the quality of media reporting about AI varies significantly and may be summarised into themes of AI-driven apocalypse, assistance and transcendence, which in turn reside somewhere in a spectrum between dystopian and utopian extremes.⁵²

It has been noted that news media are not neutral observers and are likely to play a “framing” role in shaping individual views on AI, as well as influencing the allocation of societal attention to it.⁵³ These individuals in turn have the collective or potentially even personal ability to influence government policymakers – and these same policymakers are usually consumers of (and influenced by) media themselves. Much of the reason for the prevalence of AI articles in the media is financial. I5 noted the importance of adverts for deriving financial income from the internet, with the Graph Neural Network – the AI used for tailoring social-media feeds to consumers – driving a particular view of the world by collecting people's whole experience on the internet, creating a profile, and structuring adverts specifically for them.⁵⁴ I6 additionally highlighted the vested interests that big tech and certain military manufacturers (in particular) have in AI being perceived as important, and how this is framed by media:

The main [AI race] drivers right now are a combination between a kind of a media frenzy – we are in a bit of a hype bubble right now – and the industry players who are doing everything they can to inflate the importance of their industry in the eyes of decision makers. And why wouldn't they? Also, chip sellers, those who are benefiting peripherally from this, and the national security hawks. There is a hardcore in any intelligence or national security system who thrives on an adversarial framing of literally anything... that can be turned into ‘us versus them,’ ‘we have to beat them,’ ‘we have to pour more money into the units that I run.’⁵⁵

Where the media narrative is one of national security and geopolitical competition, and particularly where it makes comparisons which might produce a fear of “falling behind” peer competitors, certain media narratives could serve alongside academic papers to drive the AI race at the state level.⁵⁶ The media narrative about AI is additionally driven by AI itself, as various AI-powered tools used by media outlets tailor content of their customers based on the cookies created by websites and stories that they click on.⁵⁷ Therefore persons “tagged” via their internet cookies as having an interest in AI are likely to receive more AI content in media, which in turn may serve to amplify their perception of its importance.⁵⁸

Alongside the effect of media's narrative in driving the AI race is the effect AI plays in driving various narratives in the media in return. AI-powered misinformation and disinformation on the internet, augmented by AI-targeted advertising, is a national security risk consideration for all nation-states, including New Zealand. Assisted by the general lack of watermarks identifying AI-generated content and algorithms that promote incendiary or enticing content ("clickbait"), research finds that "falsehood diffuses significantly further, faster, deeper and more broadly than truth on Twitter."⁵⁹ This results in "survival of the most addictive" content generation on social media platforms, with platforms refusing to use clickbait models simply outcompeted by the platforms that do.⁶⁰ Fake stories "seeded" into the web and then amplified by AI bots can greatly empower state-sponsored disinformation campaigns for either subversion or political manipulation purposes in a cheap, often non-attributable and therefore unaccountable manner.⁶¹ This vector is asymmetric as those nation-states compelling state-controlled media have a strong advantage over states with open and free media. While varying degrees of regulation over media in nation-states is already well established, the same cannot be said for regulation over AI.

Lack of regulation

Lagging well behind the race to develop AI is the matter of AI regulation, which is seen as key to shaping normative behaviours and safe design principles. The current lack of AI regulation does not 'drive' the AI race; rather, it fails to restrain it. AI corporations are profit-led and often have an interest – and in corporate law sometimes even a duty – to weaken or block laws or policies which expand regulatory reach; This, arguably, is demonstrated already by the success of the lobbying by AI corporations in the United States to keep AI development self-regulated.⁶² Whilst comparisons have been made with regulating nuclear technology, the regulation situation post-1945 was much simpler than the one we face now.⁶³ Nuclear technology does not diffuse rapidly, is reasonably separable into commercial and military uses, and can be relatively easily monitored in a quantifiable way – none of which applies to AI.⁶⁴

Another reason for the lack of AI regulation cited in the literature is because governments responsible for creating regulation are so far behind the companies making it. Cutting-edge AI development is mostly being led and funded by the private sector, not governments.⁶⁵ This makes the AI race quite different to the 20th century Cold War space race; a non-violent outlet for geopolitical competition led by the U.S. and Soviet Union. Inventions from the space race are now in everybody's mobile phones; however, with AI this dynamic has reversed, with governments "playing catch up" with the private sector spearheading AI development.⁶⁶ As AI development is led by the world's most economically powerful corporations and has become progressively securitized, this puts corporations in a strong position to block efforts by governments to regulate and restrain them.⁶⁷

An offshoot of regulation is AI technology standards, which is a geoeconomic and security device that reflects a country's capacity to influence international standards and therefore shapes trade and security alliances.⁶⁸ Part of the AI race is the race to set the AI technology standards, as this shapes AI adoption by small to middling powers and, in turn, dictates who they then can ally with.⁶⁹ In the case of the European Union, its 290 AI policy initiatives have been argued to (implicitly) allow it to reclaim its position as "the normative power of Europe."⁷⁰ In the case of the US-China dynamic, a country which chooses Chinese AI technology standards is unlikely to be accepted as a close ally by the US; the Huawei 5G saga is an example of this.⁷¹ I3 offered a Realist perspective on the US-China dynamic, suggesting that great powers believe that regulations provide little benefit unless they are *their* regulations:

We live in a rivalrous world where states are competing, and AI is the key thing they need to compete in... I think these big countries are obsessed about being number one because their perspective is very different from a small country. They see themselves much more as the rule makers, not the rule takers.⁷²

I3 continued by saying that the true issue with AI regulation was political, rather than technological, in that the world's two greatest superpowers currently (US and China) have fluctuating diplomatic relations and divergent worldviews and may not be able to agree on what AI regulation should look like. I3 also noted that, while with nuclear proliferation the great powers found a way to identify red lines and regulate, this would be much more difficult with AI due to the many uses of it. This opinion aligns with the views expressed within the academic literature, including the parallels (and differences) noted with nuclear weapons treaties.⁷³ This is consistent with a conclusion from I2, who noted a range of existing broken agreements in the cyber domain and questioned whether great powers would stick to any agreements anyway:

There's any number of international treaties and agreements that exist, including between China and the US about cyber, and the value lies only on paper when it comes to nation states maintaining their own interests. The nation state's self-interest will always trump any handshake or treaty.⁷⁴

Because AI development remains the preserve of powerful corporations, which can afford the power supply, hardware arrays, vast training data pools and rare technical expertise needed for this, AI monopolies have already started to cement and there is a high likelihood that AI will serve to entrench corporate power and influence, potentially at the expense of the public good.⁷⁵ This is particularly the case if AI corporations are permitted to self-regulate, as I5 explains:

We're dealing with something that has the capacity to destroy entire economies at scale. OpenAI for example are moving so fast they don't have anything put in place. They have a council for safety, but the board members are on that council, and the board members are beholden to the shareholders, so it has so many conflicts of interest.⁷⁶

The challenge of regulating something which is not yet fully into being was raised as another consideration by I1:

I don't think until we have actual material examples of AI systems - whether it's in the military realm or other areas that have been developed that are being deployed on a on a large scale - that there can then be a specific subject for regulation. I can't see regulation preventing those things from coming into being if states or corporations are going to benefit from them financially or in a security sense.⁷⁷

Some of these AI corporate monopolies are already powerful enough to influence international security, as, for example, in the Ukraine conflict with SpaceX and Starlink.⁷⁸ The possibility of the AI race and the lack of subject matter experts in the public sector rendering big-tech corporations more powerful than the nations which host them was acknowledged by experts, but they also noted that states are still capable of shutting down corporations if needed.⁷⁹ They noted, too, that corporation's significant influence on international security was not a new phenomenon, with global militaries long dependent on private military, intelligence and logistics firms.⁸⁰ I3 suggested that while the US will rely on corporations to innovate with AI, China will likely not due to its top-down system and relative lack of significant AI companies compared to the US, which hosts almost all of the world's top tech companies.⁸¹ Instead China will likely emphasise leveraging its powerful academic resources.⁸²

This lack of current material examples coupled with animosity by big tech towards AI regulation suggests that it may take an AI disaster to bring robust AI regulation into being.⁸³ The Challenger space shuttle disaster suggests that, even with the smartest staff in the world, catastrophes can still result from weak safety culture.⁸⁴ Bias is noted as a big cause of AI safety issues and cuts both ways: "automation bias" – complacency or over-reliance on automated systems such as automated fail safes – is a known cause of major historical accidents across a range of fields.⁸⁵ Connected with automation bias lies organisational risks, including a weak safety culture, potentially made worse by "safety-washing," and by corporations developing AI potentially overly influenced by "move fast and break things" AI startups.⁸⁶ The saying that "aviation regulations are written in blood" is unfortunately also likely to apply to the prospect of AI safety and ensuing regulation.⁸⁷

It is acknowledged that notable efforts have been made by international bodies, such as the United Nations and EU, to agree an ethical normative framework for AI, along with regulatory recommendations to mitigate the increasingly evident real-life issues from biased or hallucinating LLM outputs, AI-manufactured misinformation, deepfakes and other negative outcomes of this new technology.⁸⁸ However, this is the antithesis of the “move fast and break things” risk-taking pioneer ethos of Silicon Valley where much AI is being developed.⁸⁹ Further, it may easily be perceived (or spun) as squandering first-mover advantage – a particularly compelling argument if a country or corporation suspects that a key competitor is unconstrained by the same regulations.⁹⁰ Leveraging this anxiety, big tech in the US and Britain has been broadly successful in pushing the argument that they should be self-regulating.⁹¹ This highlights that producing effective confidence building measures on AI development between distrusting parties relies upon not just shared interests to succeed, but also an equivalent mutual understanding of the risk and problem definition – something that the research suggests is currently not yet there between the U.S. and China.⁹² Here again one sees the effect the psychological elements of paranoia and fear of missing out play in the AI race, where AI corporations have successfully persuading policy-makers not to significantly regulate AI, despite there being compelling arguments across AI safety literature of the critical need for it. I6 put this simply:

“The AI race is going to make more and more people think, well, you know, we’ve improved the technology and if we’re not doing this, then *they’re* going to be doing it.”

Security dilemma

AI is not being developed in a geopolitical vacuum, but rather, in a world where rivalry, distrust and aggressive military behaviour remains the norm in international politics. This rivalry can, in turn, create a “security dilemma,” where the means by which a state tries to increase its security decreases the security of others.⁹³ This feeling of vulnerability drives their own counter-preparations in return, leading to a vicious circle of insecurity and power accumulation.⁹⁴ All of the academic literature on this theme in relation to the AI race focusses predominantly on the great-power competition between the US and China.

The opinions of experts interviewed for this research directly correlated with the views expressed in the academic literature, with competition and lack of trust between the great powers cited as key factors driving the AI race, resulting in competing nations concerned about the geostrategic implications of falling behind rivals.⁹⁵ I1 argued that the AI race between the US and China is more about being an overall technology leader than developing AI; however, agreed that the phrase “AI race” tended to have a military or geopolitical reference for many people.⁹⁶ A synthesis of the overall literature suggests

that China views the US as a hegemon in decline, seeking to contain China's historically inevitable rise, while the US views the 21st century rise of China as a great power as a threat to global liberal democracy and its current economic and military global leader position.⁹⁷ It is commonly held that AI, while not a weapon itself, is a general-purpose enabler. In this AI could potentially activate revolutionary new weapons such as Autonomous Weapons Systems (AWS), as well as strategic battle tools such as AI powered full-spectrum, multi-domain command and control (C2).⁹⁸ Weighing up this kind of information, Washington D.C. and Beijing are both operating at some level on the assumption that AI will bestow at least an edge, and possibly a decisive competitive advantage, which means neither can afford to fall behind the other.⁹⁹ The US also noted warily China's ambition to overtake the West in AI research and development by 2025, and to be world leader in AI by 2030, aided by its Digital Silk Road strategy.¹⁰⁰

Open-source research indicates that the US and China study each other's defence investment in AI closely; 1.9% or over US\$1.6 billion of China's People's Liberation Army public contracts over April to November 2020 were related to AI or "autonomy" versus US\$2.5 billion or 0.6% of US Department of Defence's US\$413.9 billion public contracts over 2021 FY related to the same.¹⁰¹ These are, arguably, surprisingly modest investments from the two superpowers considering their national security strategies both cite the importance of integrating AI into their militaries, though, of course, the level of secret investment is unknown.¹⁰² It has been noted that the lack of knowledge of each other's actual battlefield AI capability keeps worst-case analysis at the forefront of strategic planning, acting to further drive the security dilemma between the US and China.¹⁰³ An example of this is the 2017 quote regarding AI from Russian President Vladimir Putin that "whoever becomes leader in this sphere will become ruler of the world."¹⁰⁴ This simple statement is widely repeated across the AI and international security literature as proof of the strategic importance Russia places on AI, and – more questionably – evidence in itself of the future importance of AI.¹⁰⁵ In this way hyperbole alone can serve to further drive paranoia and FOMO on the part of the Western security establishment.¹⁰⁶

One of the areas of AI truly in a current real state of "persistent contestation" is cyberspace. In geostrategic terms, cyberspace is a twilight zone of intelligence competition and covert warfare described as "neither truly at war nor peace but maintaining a constant condition of "unpeace."¹⁰⁷ Here, states have little choice but to engage at some level in the AI arms race, as AI-enhanced cyber-defence is essential for defending against AI-enhanced cyberattacks capable of relentlessly searching for the initiative, in a battlespace where the attacker holds the advantage.¹⁰⁸ In turn, AI-enhanced cyber-weapons could be perceived as essential for great powers to possess deterrence against other great power's equivalent weapons and, indeed, creating a condition of "constant contact" is necessary for machine learning cyber to evolve with their opponents and maintain the initiative.¹⁰⁹

Both the academic literature and the experts interviewed constantly cited one particular use-case: AWS.¹¹⁰ This can include not just the weapons platforms, but also other elements of the “kill chain” such as target acquisition, identification, and prioritisation.¹¹¹ While there are many technologies needed to develop AWS, including robotics, AI was viewed as one of the most important enablers of all.¹¹² I1 and I6 reserved judgement on the impact of AWS, noting the current lack of evidence to support such a prediction. However, both agreed that *perception* of the future importance of AWS was helping drive the AI race.¹¹³ The current trajectory shows that drones which are currently human-piloted will almost certainly evolve into fully autonomous weapons-platforms in the future. I2 elaborated as follows:

The use of drones has already introduced a whole new dimension of warfare where a war can be fought from the other side of the world after dropping the kids off at school. And then removing mum dropping off the kids at school and going to work and just letting the machines make the decisions, is a whole new paradigm that comes into a conflict that’s being fought in that way, especially if the other side is still putting people behind the trigger.¹¹⁴

The early indications of this are already present in the Ukraine conflict with the widespread and effective use of “autonomy modules” in offensive drones – by both sides – designed to take over guidance in the terminal attack phase if connection with the human operator is cut.¹¹⁵ There has also been limited experimentation with completely autonomous land-based AWS.¹¹⁶ I1 noted that the “Lavender” and “Gospel” military AI targeting systems currently in use by Israel still operate within human political decision making and, as such, are not “stepping outside of humanity” in their current iteration.¹¹⁷ This reflects a recurrent suggestion in the literature that the world’s militaries remain relatively cautious about the design and use of AI and AI-enabled weapon systems owing to unresolved ethical questions, reservations about its reliability and organisational resistance to change, particularly from traditionally-prestigious, elite roles under threat from being replaced by AI.¹¹⁸ This caution is unlikely to remain following any significant conflict where the competitor is themselves using AWS, however.¹¹⁹ I5 suggested that the main reason for this is likely to be an institutional sense of caution about relinquishing control of lethal weapons to a potentially unpredictable decision-maker: professional militaries prize reliability.¹²⁰ Another reason is that, for now, the capacity to take and control territory remains through human power – the positioning of naval force or ground troops. AI is yet to fundamentally change this basic paradigm.¹²¹

On the theme of military cautiousness about AI’s reliability, a key near-term concern is the risk of conflict initiated by military AI (including AWS), perhaps programmed with inflexible rules of engagement, in an ambiguous situation, and unable to understand the difference between aggressive, symbolic posturing, and true offensive action.¹²² A

2020 RAND study reached a similar conclusion; that machines will likely be worse than humans at understanding the signalling involved in deterrence and this, combined with the speed at which autonomous systems can operate, could easily lead to inadvertent escalation.¹²³ In contested areas such as the South-China Sea, if AWS with unsafe AI began to be used it is not difficult to see how this could lead to a “flash war” – a escalatory spiral of attack / counter attack which happens so fast that human decision makers cannot stop it.¹²⁴

Current AWS can be relatively expensive, though this will change over time. An AWS army would likely be cheaper to build and maintain than a human army because a significant portion of a human army’s organisational costs are in salaries – 25% in the case of the US.¹²⁵ Roles which are particularly high-value and protected within the military, such as jet and rotary-wing pilots (requiring 5-7 years’ training), would be particularly attractive to replace by AI: once trained, an elite pilot AI profile can be copied across thousands of instances, rendering the “loss” of any AI pilot via battle, accidents or attrition an insignificance.¹²⁶ In this respect, AI is likely to become disruptive to military organisations.¹²⁷ Mass-production of AWS could dramatically reduce the cost of warfare at the political level, as politicians would not need to manage public anger over human losses, which could, in turn, make warfare more palatable as a policy choice by states able to produce AWS at scale.¹²⁸ Lastly, production of an AWS army by one side would impel others to follow suit: few national leaders would want to send their young people to fight against military robots. As with human vs AI chess, where it is now considered pointless to have human vs computer competitions, it could one day reach a stage of evolution where even professional human soldiers will not be able to seriously compete against advanced AWS.¹²⁹ Another potential future where the tempo of warfare accelerates to the point where humans can no longer cope and control is handed over to AI – what China calls the “battlefield singularity” and the US call “hyperwar” – remains a worrying vision for war planners which continues to drive the AI race.¹³⁰ We are still far from AWS altering the balance of power. However, this is where the AI race will likely lead and is one area of the AI race which nation-states should have valid concerns about and be planning for.

Hype and fear versus evidence and results

Having now described the main drivers or enablers of the race to develop AI, as synthesised from the collective accepted wisdom of general AI literature, this article contemplates an important question: why are AI’s achievements to date not seen to be one of the main drivers of the AI race? The answer to this is simply that, while some AI implementations have established impressive advancements in specific fields, such as large-language models, navigation and language translation, AI is yet to produce any truly consequential achievement which provides one side a decisive advantage over another. The economic, military, and geostrategic benefits of AI generally remain, for now,

plausible but speculative. While the phenomenon of ‘AI hype-cycles’ is well described in the academic literature on AI, we shall now focus on a gap in the literature, which is the role played by hyperbole, paranoia and FOMO in driving the AI race. As I6 observes:

We are right in the middle of an enormous hype level around AI. And this is a cycle that has repeated many times. It happened in the early 2010s, late 2000s, the 90s, the 70s – it happened in the 50s when AI was just starting to be studied. A breakthrough gets made, interesting, important things are done with the breakthrough, and inevitably AI experts start proclaiming that “we are imminently going to create a digital God-head. And it’s been wrong all of those other times.”¹³¹

The wider AI development culture includes some problematic commercial, political and even egotistical motivations of some who promulgate and sometimes inflate AI’s actual capabilities. I6 continues:

We are very much in a hype cycle about what AI is and can do. It is so often talked about as if the far distant ideals of what it could accomplish are already achieved or just around the corner - and so you need to jump on it now. And that’s a confluence of deliberate marketing tactics and genuine excitement and hype from the people building it.

We’re at a time where a lot of the people who are doing this research have been influenced by those who came before, the writing that came before, and especially in the environment of Silicon Valley, which is this strange pressure-cooker of venture capital hustlers and computer science majors who are all micro-dosing ketamine, and they’re all going to the same parties, they’re all enthralled with this idea that they are building a bold new future that no one else could possibly understand. And it’s very easy in that social environment to get way out ahead of your skis, especially when there is no penalty for getting out ahead of your skis. And if you’re lucky, you get hundreds of millions of dollars in investment capital for doing so.

Look at the actual results that have been gleaned by implementing generative AI into workflows. I don’t know if there’s a single company or organization that can point to concrete significant gains that they have made as a result of deploying this technology. They’ll speak in generalities, but if you look at the stats from companies that have tried to adopt these tools, increasingly, they are either pausing or just stopping entirely because the results have not been what they wanted them to be.”¹³²

I6’s observations align with 2024 studies into the actual economic benefits from deployed AI, indicating it may be overrated.¹³³ The following year a study by MIT University, which interviewed representatives from 52 organizations, surveyed 153 senior

leaders across four industry sectors, and reviewed over 300 publicly disclosed AI initiatives, concluded that business performance benefits from AI were heavily overrated:

Despite \$30–40 billion in enterprise investment into GenAI, this report uncovers a surprising result in that 95% of organizations are getting zero return... Just 5% of integrated AI pilots are extracting millions in value, while the vast majority remain stuck with no measurable [profit and loss] impact.¹³⁴

There are current concerns in the US financial sector that the level of debt being built up by AI companies building data centers – USD 400 billion from just four companies alone over 2025 – virtually requires them to perpetuate the hype cycle in order to (hopefully) obtain future returns on their investments.¹³⁵ Moving the discussion from business to international security comes to a similar result: the opinions of most of the experts interviewed for this research was that, for now, AI makes little strategic difference to national security disparity between countries. It may be noted that in the 2026 conflict between the Israel and the US versus Iran, holding a tremendous advantage in AI capabilities did not play any decisive role in assisting the US in managing the strategic deadlock with Iran in the Strait of Hormuz. While comparisons are often made with nuclear weapons, experts regarded this as inaccurate because while it is well-evidenced that nuclear weapons provide strategic advantage, this is not yet the case with AI.¹³⁶ This, however, does not stop hype and paranoia giving AI its own power to affect international security:

It is quite possible that in an international security context, AI could be massively impactful without being very useful: if there is a perception that it is very useful and that perception drives behaviour... If that aspect of the technological geopolitical rivalry is focused on strongly enough that for instance Taiwan becomes an even bigger flashpoint than it is, because both sides are convinced that they need the greatest chip fabrication capabilities in the world if they are going to remain competitive with their main geopolitical rival, and that sparks a war around Taiwan that expands outwards, it doesn't matter really the reality of what AI is capable or what its impact would be, it is still incredibly impactful on a geopolitical level.¹³⁷

The academic literature regarding AI in national security is curiously uncritical regarding widely held assumptions that AI will itself prove decisive to national power, and that this presents a gap worthy of exploration. A plausible alternative future is one where AI significantly affects international security more through hype and fear, rather than any useful outputs. This possibility suggests that the AI development race could potentially affect national security more than the AI itself, something worthy of consideration by New Zealand security professionals and policymakers.

A key point in this discussion is the power of perception and psychology: ambition, desire for money or power, fear of missing out, and fear of breakthroughs an opponent might achieve that make us vulnerable. By utilizing a perception versus capability future scenario matrix, it is possible to see that, in an international security context, AI could be extremely impactful even if it does not work well, because perceptions drive behaviour.¹³⁸ For example, despite China's military AI development remaining relatively opaque to the US, public statements by China's People's Liberation Army that it perceives AI as something which "will fundamentally change the character of warfare," combined with mirror statements by the US Department of Defence, are enough by itself to cause both sides to perceive military AI as important; the power of bias and paranoia mean evidence of actual capability is not necessary required to drive this security dilemma.¹³⁹ The below figure illustrates how this perception versus capability dynamic could result in various different future scenarios.

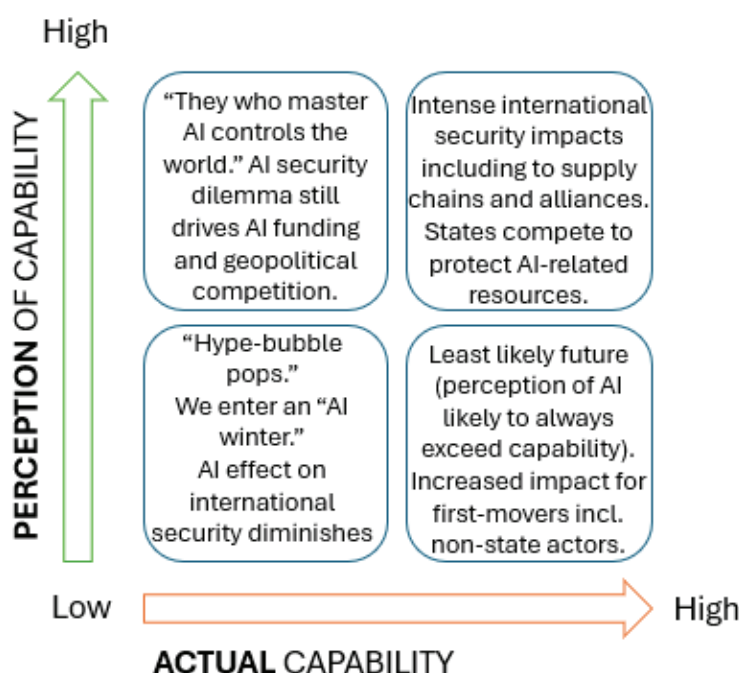


Figure One: Impact of artificial intelligence on international security – perception vs capability matrix.¹⁴⁰

Conclusion

This article argues that the race to develop AI, and the role this race plays in driving the new security dilemma, is based more on hype, paranoia, and ideational (sometimes even fantastical) concepts of what AI might in future be able to do, than on empirical evidence. Significantly, substantive discussion of this remains absent in the academic literature on AI. The strategic advantages which AI may in future bestow remain, for now, generally plausible but speculative, however this lack of evidence will not itself stop the AI race continuing to have significant geostrategic and national security impacts. Because it is occurring within a global context of increasing geostrategic competition between the US and China in particular, the AI race produces other harmful effects, such as supply chain protection, which turns graphics chips and STEM (Science, Technology, Engineering and Mathematics) students into national security assets.¹⁴¹ This AI race poses a quandary for policymakers: reduce the pace of development to undertake due diligence in procurement, responsible testing and risk management but, in so doing, lose first-mover advantage to one's competitors. The article does not argue that AI will not become a powerful tool in the international security domain; rather it only argues that the industry-driven arguments for this have simply not yet been proven.

It is, therefore, too soon to tell with confidence what benefits and risks AI will entail for New Zealand. Only assumptions are possible. Nonetheless, this article has highlighted the importance of New Zealand security professionals being a cautious observer and customer in a field often distorted by paranoia, unevidenced assumptions, and financially motivated messaging from persons and entities with a vested interest in continuing the hype. If AI does emerge to be as revolutionary as claimed, deployment of it could alongside the beneficial effects result in certain harmful effects on New Zealand society, such as labour-market disruption, which in turn may create security challenges.¹⁴² Bots, deepfakes, seeding and repurposing advertising AI for propaganda, misinformation and disinformation, and gradual societal upheaval from the effect of AI on the labour market and the political ramifications of that, are all likely to affect international security. While studies indicate that AI's short-term impact on the labour market may have been overstated, previous industrial revolutions all resulted in significant societal and geopolitical upheaval over time, and there is little indication that the Fourth Industrial Revolution will be different.

This research found two likely areas where "the hype is real" and there is good reason for nation states to be paranoid. The first is AWS. Global militaries, with their strong institutional need for reliability in their tools, are currently cautious in respect of AWS and AI in general. However, there are multiple flashpoint scenarios which could trigger an AWS arms-race up the escalatory ladder.¹⁴³ A possible future where the AWS equivalent of the AK-47 assault rifle is produced: cheap, tough, potent and able to be mass produced in the millions and proliferated to warzones across the globe, is not difficult to imagine. A second risk for international security is AI resulting in what has been

described as “the end of truth;” the new opportunity to explain away any voice, image or film evidence of political wrong-doing as “AI generated.” For example, Horowitz *et al* point out that the “smoking gun” Oval Office tapes in the 1972-1974 Watergate scandal would not be undeniable proof in today’s age.¹⁴⁴ Another manifestation of “the end of truth” could be where large portions of the population refuse to trust or pay for professional news platforms and are diverted towards a social-media echo-chamber for their news, receiving stories tailored for their online bias-profile uncorrected by balanced, professional journalistic processes. This serves to concentrate information and therefore political and electoral influence in the hands of social-media corporations, which could erode faith in democracy and shape politics towards populism – arguably a trend already underway in both the US and Europe.¹⁴⁵

The key takeaway of this research is that simple psychological factors powerfully affect the AI race, which, in turn, affects international security. The AI race has the power to affect New Zealand’s security even without AI actually being useful – and even more so if AI meets or exceeds the promises made for it. A safe assumption is that AI will likely emerge to be effective if carefully procured and deployed in appropriate use-cases. Identifying what these use-cases are, and manoeuvring to leverage them in time, will be the next challenge for New Zealand’s security professionals into the future.

1 “Recommendation of the Council on Artificial Intelligence,” Organisation for Economic Cooperation and Development (OECD) OECD/LEGAL/0449 (2019), p3. Retrieved from <http://legalinstruments.oecd.org/>

2 Grattke, Markus and Berkemer, Rainer, *Learning Algorithms What is Artificial Intelligence Really Capable of?* in Petersen, Christer and Klimczak, Peter, “AI - Limits and Prospects of Artificial Intelligence,” KI-Kritik / AI Critique (2023), p22-23, accessed from <https://doi.org/https://doi.org/10.14361/9783839457320>.

3 Michael C. Horowitz, “Artificial intelligence, international competition, and the balance of power,” *Texas National Security Review*, Vol. 1, No. 3 (2018): 38. Retrieved from <https://doi.org/10.15781/T2639KP49>

4 *ibid.*

5 *ibid.*, p. 42.

6 Hendrycks, Mazeika, and Woodside, “An Overview of Catastrophic AI Risks,” 22, and Visvizi, Anna and Marek Bodziany, “Artificial Intelligence (AI): Explaining, Querying, Demystifying,” in *Artificial Intelligence and its Contexts*, edited by Anna Visvizi and Marek Bodziany (Springer Nature Switzerland AG, 2021), <https://doi.org/10.1007/978-3-030-88972-2>, pp.16-17.

7 Kareem Ayoub and Kenneth Payne, “Strategy in the Age of Artificial Intelligence,” *Journal of Strategic Studies* (2016): pp.793-819. <https://doi.org/https://doi.org/10.1080/01402390.2015.1088838>

8 “Unknown: Killer Robots.” Netflix, 2023 <https://www.netflix.com/sg/title/81473681>

9 Klimczak and Petersen, “AI - Limits and Prospects of Artificial Intelligence,” KI-Kritik / AI Critique (2023), p.34. Accessed from <https://doi.org/https://doi.org/10.14361/9783839457320>

- 10 “AI Forum New Zealand.” <https://aiforum.org.nz/about/> and “New Zealand’s Strategy for Artificial Intelligence: Investing with confidence,” Ministry of Business, Innovation and Employment, July 2025. <https://www.mbie.govt.nz/business-and-employment/economic-growth/digital-policy/new-zealands-ai-strategy-investing-with-confidence>
- 11 “United Arab Emirates – National AI Strategy,” Minister of State for Artificial Intelligence, Digital Economy, and Remote Work Applications Office, 2017. <https://regulations.ai/regulations/united-arab-emirates-2017-10-national-ai-strategy-2031>
- 12 “2025 Defence Capability Plan,” New Zealand Defence Force, 2025. <https://www.defence.govt.nz/publications/2025-defence-capability-plan/> and “How Technology Innovations are likely to influence New Zealand’s Defence Capabilities beyond 2035,” New Zealand Ministry of Defence, February 2026. <https://www.defence.govt.nz/publications/doSearch/>
- 13 *ibid*, p. 29.
- 14 “New Zealand’s National Security Strategy: Secure Together,” Department of Prime Minister and Cabinet, 2023, p.8., <https://www.dpmc.govt.nz/publications/aotearoa-national-security-strategy-secure-together-tatou-korowai-manaaki>
- 15 *ibid*, p.6.
- 16 “New Zealand’s Strategy for Artificial Intelligence: Investing with confidence,” Ministry of Business, Innovation and Employment, p.9.
- 17 “Near-term” here is defined as 5-10 years into the future.
- 18 Michael C. Horowitz, Gregory C. Allen, Elsa B. Kania and Paul Scharre. “Strategic Competition in an Era of Artificial Intelligence.” Center for a New American Security, 2018, pp.3-4., <https://www.cnas.org/publications/podcast/strategic-competition-in-an-era-of-artificial-intelligence>
- 19 “New Zealand’s Strategy for Artificial Intelligence: Investing with confidence,” Ministry of Business, Innovation and Employment, July 2025. <https://www.mbie.govt.nz/business-and-employment/economic-growth/digital-policy/new-zealands-ai-strategy-investing-with-confidence>
- 20 Aditya Challapally, Chris Pease, Ramesh Raskar, Pradyumna Chari, “The GenAI Divide: State of AI in Business 2025,” MIT Project NADA, July 2025, https://mlq.ai/media/quarterly_decks/v0.1_State_of_AI_in_Business_2025_Report.pdf
- 21 Reuben Steff, Joe Burton and Simona R. Soare, *Emerging Technologies and International Security – Machines, The State, and War* (Routledge, 2021), 2-3, <https://doi.org/10.4324/9780367808846>
- 22 Ayoub and Payne, “Strategy in the Age of Artificial Intelligence,” pp.806-808.
- 23 Saad Haj Bakry and Bandar A. Al Saud. “A Roadmap to AI: An Insight from the Saudi Vision 2030 - Artificial Intelligence and its Contexts.” In *Artificial Intelligence and its Contexts*, edited by Anna Visvizi and Marek Bodziany, (Springer Nature Switzerland AG, 2021), pp.201-223., <https://link.springer.com/book/10.1007/978-3-030-88972-2>
- 24 Hendrycks, Mazeika, and Woodside, “An Overview of Catastrophic AI Risks,” 14 and Horowitz, Allen, Kania, and Scharre. “Strategic Competition in an Era of Artificial Intelligence,” pp.3-4.
- 25 Bill Joy, “Why the Future Doesn’t Need Us,” in Yampolskiy, Roman V. (ed) *Artificial Intelligence Safety and Security*, Chapman & Hall/CRC, (2019), p.11.
- 26 Horowitz, “Artificial intelligence, international competition, and the balance of power,” p.41.
- 27 12, interview by Justin A. Alves, May 23, 2024, interview 2, transcript, held by author.
- 28 13, interview by Justin A. Alves, May 25, 2024, interview 3, transcript, held by author.
- 29 14, interview by Justin A. Alves, May 30, 2024, interview 4, transcript, held by author.
- 30 Penny, Andrew, “AI Winters: a Historical Analysis of Technological, Economic and Social Contributors to Progress,” Baylor University, May 2026, p.9. <https://baylor-ir.tdl.org/items/338c0668-dc9b-4776-9338-631ecffa4fb5/full>
- 31 *ibid*, p.5.

- 32 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.
- 33 “World’s Largest Companies In 2026.” *Global Finance Magazine*, April 1, 2026. <https://gfmag.com/data/biggest-company-in-the-world/>
- 34 “Nvidia is now the world’s most valuable company.” *The Economist*, June 20, 2024, <https://www.economist.com/business/2024/06/20/nvidia-is-now-the-worlds-most-valuable-company>
- 35 “America curbs Chinese access to advanced computing.” *The Economist*, 2022, October 13. <https://www.economist.com/business/2022/10/13/america-curbs-chinese-access-to-advanced-computing> and “Department of Commerce Revises License Review Policy for Semiconductors Exported to China.” U.S. Department of Commerce, Bureau of Industry and Security, January 14, 2026, [bis.gov/press-release/department-commerce-revises-license-review-policy-semiconductors-exported-china](https://www.bis.gov/press-release/department-commerce-revises-license-review-policy-semiconductors-exported-china)
- 36 Horowitz, “Artificial Intelligence, International Competition, and the Balance of Power,” p.3.
- 37 Horowitz, Allen, Kania, and Scharre. “Strategic Competition in an Era of Artificial Intelligence,” p.4.
- 38 Horowitz, “Artificial Intelligence, International Competition, and the Balance of Power,” p.44.
- 39 *ibid*, 11
- 40 Horowitz, Allen, Kania, and Scharre. “Strategic Competition in an Era of Artificial Intelligence,” p.4.
- 41 I2, interview by Justin A. Alves, May 23, 2024, interview 2, transcript, held by author.
- 42 I4, interview by Justin A. Alves, May 30, 2024, interview 4, transcript, held by author.
- 43 I2, interview by Justin A. Alves, May 23, 2024, interview 2, transcript, held by author.
- 44 I4, interview by Justin A. Alves, May 30, 2024, interview 4, transcript, held by author.
- 45 I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 46 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 47 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.
- 48 Krystal Hu, “ChatGPT sets record for fastest-growing user base - analyst note.” Reuters, February 2, 2023, <https://www.reuters.com/technology/chatgpt-sets-record-fastest-growing-user-base-analyst-note-2023-02-01/>
- 49 Nguyen and Hekman, “The news framing of artificial intelligence: a critical exploration of how media discourses make sense of automation,” *AI & Society*, Vol. 39, (2022), pp.441-443. <https://doi.org/10.1007/s00146-022-01511-1>
- 50 *ibid*.
- 51 Shah Alam, “Media and Artificial Intelligence: Current Perceptions and Future Outlook,” *Academy of Marketing Studies Journal*, Vol 28, Issue 2 (2024), <https://www.abacademies.org/articles/media-and-artificial-intelligence-current-perceptions-and-future-outlook.pdf>
- 52 Denia, Elena, “AI narratives model: Social perception of artificial intelligence,” *Technovation*, Article 103266, Volume 146 (August 2025). <https://doi.org/10.1016/j.technovation.2025.103266>
- 53 Dennis Nguyen and Erik Hekman. “The news framing of artificial intelligence: a critical exploration of how media discourses make sense of automation,” p.438. exploration of how media discourses make sense of automation.” *AI & Society*, Vol. 39, (2022), p.438., <https://doi.org/10.1007/s00146-022-01511-1>
- 54 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 55 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.
- 56 “How the U.S. and China Compare in the Race to Build AI Combat Drones,” *Wall Street Journal*, August 12, 2024, <https://www.wsj.com/video/series/us-vs-china/how-the-us-and-china-compare-in-the-race-to-build-ai-combat-drones/28D9277E-A87A-4865->

- 8646-66D0A7D78FD7?mod=ai_videos_pos4 and Konaev, Margarite et al, “U.S. Military Investments in Autonomy and AI,” Center for Security and Emerging Technology, 2020, 6, 16, <https://cset.georgetown.edu/publication/u-s-military-investments-in-autonomy-and-ai-a-budgetary-assessment/>
- 57 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 58 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 59 Horowitz *et al*, “Artificial Intelligence and International Security,” p.5.
- 60 Hendrycks, Mazeika, and Woodside, “An Overview of Catastrophic AI Risks,” p.20.
- 61 Horowitz *et al*, “Artificial Intelligence and International Security,” p.5.
- 62 Melissa Heikkila, “AI companies promised to self-regulate one year ago. What’s changed?” MIT Technology Review, July 22, 2024, <https://www.technologyreview.com/2024/07/22/1095193/ai-companies-promised-the-white-house-to-self-regulate-one-year-ago-whats-changed/>
- 63 Bill Joy, “Why the Future Doesn’t Need Us,” p.15.
- 64 *ibid*.
- 65 Horowitz, Allen, Kania, and Scharre, “Strategic Competition in an Era of Artificial Intelligence,” p.6.
- 66 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 67 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.
- 68 Visvizi and Bodziany, “Artificial Intelligence (AI): Explaining, Querying, Demystifying,” p.20.
- 69 James Johnson, “Emerging technologies and the Chinese challenge to US innovation leadership.” In *Emerging Technologies and International Security – Machines, The State, and War*, edited by Reuben Steff, Joe Burton and Simona R. Soare (Routledge, 2021), pp.38, 55., <https://doi.org/10.4324/9780367808846>
- 70 Visvizi and Bodziany, “Artificial Intelligence (AI): Explaining, Querying, Demystifying,” p.20.
- 71 *ibid*, pp.55-56.
- 72 I3, interview by Justin A. Alves, May 25, 2024, interview 3, transcript, held by author.
- 73 Joy, Bill “Why the Future Doesn’t Need Us” in Yampolskiy, Roman V. (ed) *Artificial Intelligence Safety and Security*, p.15.
- 74 I2, interview by Justin A. Alves, May 23, 2024, interview 2, transcript, held by author.
- 75 Hendrycks, Mazeika, and Woodside, “An Overview of Catastrophic AI Risks,” p.10.
- 76 I4, interview by Justin A. Alves, May 30, 2024, interview 4, transcript, held by author.
- 77 I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 78 Jayanti, Amritha, “Starlink and the Russia-Ukraine War: A Case of Commercial Technology and Public Purpose?” Belfer Center for Science and International Affairs, Harvard Kennedy School, last revised March 9, 2023, <https://www.belfercenter.org/publication/starlink-and-russia-ukraine-war-case-commercial-technology-and-public-purpose#:~:text=This%20piece%20reviews%20the%20deployment%20of#:~:text=This%20piece%20reviews%20the%20deployment%20of>
- 79 I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 80 I2, interview by Justin A. Alves, May 23, 2024, interview 2, transcript, held by author.
- 81 I3, interview by Justin A. Alves, May 25, 2024, interview 3, transcript, held by author.
- 82 *ibid*.
- 83 *ibid*.
- 84 *ibid*.
- 85 *Safety, Unintentional Risk and Accidents in the Weaponization of Increasingly Autonomous Technologies*, United Nations Institute for Disarmament Research (United Nations, 2016), p.12.
- 86 Hendrycks, Mazeika, and Woodside, “An Overview of Catastrophic AI Risks,” p.31.

87 *ibid*, p.24.

88 “Recommendations on the Ethics of Artificial Intelligence,” UNESCO

89 Armstrong, Stuart., Nick Bostrom, and Carl Shulman, “Racing to the precipice: a model of artificial intelligence

Development”. *AI & Society* 31, (2016) 201-206, <https://doi.org/10.1007/s00146-015-0590-y> and Hendrycks, Dan, Mantas Mazeika, and Thomas Woodside. “An Overview of Catastrophic AI Risks,” p.31.

90 Steff, Reuben, “Artificial Intelligence Implications for small states,” in Steff, Reuben, Burton, Joe and Soare, Simona R (ed) *Emerging Technologies and International Security – Machines, The State, and War*, p.58.

91 “AI needs regulation, but what kind, and how much?” *The Economist*, August 20, 2024, <https://www.economist.com/schools-brief/2024/08/20/ai-needs-regulation-but-what-kind-and-how-much>

92 Horowitz, and Scharre, “AI and International Stability - Risks and Confidence-Building Measures,” pp.8-12., and “America curbs Chinese access to advanced computing,” *The Economist*, October 13, 2022, <https://www.economist.com/business/2022/10/13/america-curbs-chinese-access-to-advanced-computing>

93 Jervis, Robert. “Cooperation under the Security Dilemma.” *World Politics*, Vol. 30, No.2 (1978): P169. <https://www.jstor.org/stable/2009958>

94 Herz, John H, “Idealist Internationalism and the Security Dilemma.” *World Politics*, Vol 2, No.2 (1950), P157. <https://www.jstor.org/stable/2009187>

95 16, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.

96 11, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.

97 Kraft, Herman Joseph S, “Great Power Dynamics and the waning of ASEAN Centrality in Regional Security.” *Asian Politics & Policy*, Vol. 9, No. 4 (2017): 602-603, <https://doi.org/10.1111/aspp.12350> and “National Security Strategy – October 2022.” The White House – Washington (United States Government), 2022, <https://www.whitehouse.gov/wp-content/uploads/2022/11/8-November-Combined-PDF-for-Upload.pdf>

98 Johnson, “Emerging technologies and the Chinese challenge to US innovation leadership,” pp.29-30.

99 Reuben Steff and Khusrow Akkas Abbasi, “Interrogating the US-China confrontation,” in *Emerging Technologies and International Security – Machines, The State, and War* edited by edited by Reuben Steff, Joe Burton and Simona R. Soare (Routledge, 2021), 67, <https://doi.org/10.4324/9780367808846>

100 “Military and Security Developments Involving the People’s Republic of China 2023 – Annual Report to

Congress.” U.S. Department of Defence, 2023, 169, <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>

101 Fedasiuk, Ryan., Jennifer Melot and Ben Murphy, *Harnessed Lightning – How the Chinese military is adopting artificial intelligence*, Center for Security and Emerging Technology, 2021, 4, <https://doi.org/10.51593/20200089>

102 U.S. Department of Defence, “Military and Security Developments Involving the People’s Republic of China 2023 – Annual Report to Congress,” (2023) p34,41,168, retrieved from <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF> and The White House – Washington (United States Government), “National Security Strategy – October 2022,” p.33.

103 Reuben and Abbasi, “Interrogating the US-China confrontation,” p.67.

104 Reuben, Burton, and Soare, “Emerging Technologies and International Security – Machines, The State, and War,” p.2.

105 Many examples, including Reuben, Burton, and Soare, “Emerging Technologies and International Security – Machines, The State, and War,” 2 and Kania, “Battlefield Singularity: Artificial Intelligence, Military Revolution, and China’s Future Military Power,” p.3.

- 106 Horowitz, Allen, Kania, and Scharre, "Strategic Competition in an Era of Artificial Intelligence," p.8.
- 107 Fabio Cristiano, Dennis Broeders, François Delerue, Frédérick Douzet, and Aude Géry, "Artificial intelligence and international conflict in cyberspace – exploring three sets of issues," in *Artificial intelligence and international conflict in cyberspace* (New York: Routledge, 2023), 1, <https://ezproxy.massey.ac.nz/login?url=https://www.taylorfrancis.com/books/9781003284093>
- 108 Maurizio, "Offensive Realism and the Insecure Structure of the International System," p.343.
- 109 Harknett, Richard J. and Michael P. Fischerkeller. "Deterrence is Not a Credible Strategy for Cyberspace." *Orbis*, Volume 61, Issue 3 (2017), 5, <https://doi.org/10.1016/j.orbis.2017.05.003>
- 110 I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 111 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 112 *ibid*.
- 113 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author and I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 114 I2, interview by Justin A. Alves, May 23, 2024, interview 2, transcript, held by author.
- 115 Tereza Pultarova, "The Coming Drone War Inflection in Ukraine," *IEEE Spectrum*, 24 March 2026, <https://spectrum.ieee.org/autonomous-drone-warfare>
- 116 *ibid*.
- 117 I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 118 Michael C Horowitz, "Artificial intelligence, international competition, and the balance of power," pp.43, 48.
- 119 Horowitz, and Scharre, "AI and International Stability - Risks and Confidence-Building Measures," p.18.
- 120 I5, interview by Justin A. Alves, June 10, 2024, interview 5, transcript, held by author.
- 121 I1, interview by Justin A. Alves, May 17, 2024, interview 1, transcript, held by author.
- 122 Warren and Hillas, "Mitigating accidental war: Risk-based strategies for governing lethal autonomous weapons systems" pp.91-92.
- 123 Wong, Yuna Huh et al, *Deterrence in the Age of Thinking Machines*, RAND Corporation, RR-2797-RC (2020), <https://doi.org/https://doi.org/10.7249/RR2797>
- 124 Hendrycks, Mazeika, and Woodside, "An Overview of Catastrophic AI Risks," p.15.
- 125 Harper, John, "Pentagon Personnel Costs at Historic High," *National Defence Magazine*, 19 October, 2021, Pentagon Personnel Costs at Historic High (nationaldefensemagazine.org)
- 126 Allison, George "How long does it take to train a British military pilot?," *UK Defence Journal*, October 10, 2022, How long does it take to train a British military pilot? (ukdefencejournal.org.uk) and "Unknown: Killer Robots," Netflix documentary
- 127 Horowitz, "Artificial intelligence, international competition, and the balance of power," 43, 48
- 128 *ibid*, p.46.
- 129 Berkemer, and Grottke. "Learning Algorithms - What is Artificial Intelligence Really Capable of?" p19
- 130 Horowitz, and Scharre, "AI and International Stability - Risks and Confidence-Building Measures," 5
- 131 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.
- 132 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.
- 133 "What happened to the artificial-intelligence revolution?" *The Economist*, July 2nd, 2024, <https://www.economist.com/finance-and-economics/2024/07/02/what-happened-to-the-artificial-intelligence-revolution>

134 Aditya Challapally, Chris Pease, Ramesh Raskar, Pradyumna Chari, “The GenAI Divide: State of AI in Business 2025,” MIT Project NANDA, July 2025, https://mlq.ai/media/quarterly_decks/v0.1_State_of_AI_in_Business_2025_Report.pdf

135 Bobby Allyn, “Here’s why concerns about an AI bubble are bigger than ever,” *NPR*, November 23, 2025, <https://www.npr.org/2025/11/23/nx-sl-5615410/ai-bubble-nvidia-openai-revenue-bust-data-centers>

136 Interviews with I1, I3 & I5

137 *ibid.*

138 I6, interview by Justin A. Alves, July 8, 2024, interview 6, transcript, held by author.

139 Kania, “Battlefield Singularity: Artificial Intelligence, Military Revolution, and China’s Future Military Power,” 4

140 Basic concept elaborated by I6 during interview

141 Horowitz, Allen, Kania, and Scharre, “Strategic Competition in an Era of Artificial Intelligence,” 7

142 “Recommendation of the Council on Artificial Intelligence,” Organisation for Economic Cooperation and Development (OECD), 3

143 “AI Arms Race.” (n.d.). The Future of Life Institute. Accessed September 4, 2024. <https://autonomousweapons.org/the-risks/>

144 Horowitz *et al*, “Artificial Intelligence and International Security,” p.20.

145 *ibid.*