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Wednesday, May 25 | 2:30 p.m. (ET)

#ForwardDefense



Artificial Intelligence And National Security

Rosario Girasa



Artificial Intelligence And National Security:

Artificial Intelligence and National Security Gregory C. Allen, Taniel Chan, 2017 Partially autonomous and intelligent systems have been used in military technology since at least the Second World War but advances in machine learning and Artificial Intelligence AI represent a turning point in the use of automation in warfare Though the United States military and intelligence communities are planning for expanded use of AI across their portfolios many of the most transformative applications of AI have not yet been addressed In this piece we propose three goals for developing future policy on AI and national security preserving U S technological leadership supporting peaceful and commercial use and mitigating catastrophic risk By looking at four prior cases of transformative military technology nuclear aerospace cyber and biotech we develop lessons learned and recommendations for national security policy toward AI Publisher s web site **Artificial Intelligence and National Security** Reza Montasari, 2022-09-26 This book analyses the implications of the technical legal ethical and privacy challenges as well as challenges for human rights and civil liberties regarding Artificial Intelligence AI and National Security It also offers solutions that can be adopted to mitigate or eradicate these challenges wherever possible As a general purpose dual use technology AI can be deployed for both good and evil The use of AI is increasingly becoming of paramount importance to the government s mission to keep their nations safe However the design development and use of AI for national security poses a wide range of legal ethical moral and privacy challenges This book explores national security uses for Artificial Intelligence AI in Western Democracies and its malicious use This book also investigates the legal political ethical moral privacy and human rights implications of the national security uses of AI in the aforementioned democracies It illustrates how AI for national security purposes could threaten most individual fundamental rights and how the use of AI in digital policing could undermine user human rights and privacy In relation to its examination of the adversarial uses of AI this book discusses how certain countries utilise AI to launch disinformation attacks by automating the creation of false or misleading information to subvert public discourse With regards to the potential of AI for national security purposes this book investigates how AI could be utilized in content moderation to counter violent extremism on social media platforms It also discusses the current practices in using AI in managing Big Data Analytics demands This book provides a reference point for researchers and advanced level students studying or working in the fields of Cyber Security Artificial Intelligence Social Sciences Network Security as well as Law and Criminology Professionals working within these related fields and law enforcement employees will also find this book valuable as a reference Artificial Intelligence, National security, and Constitutional Governance in the United States reinventing the rule of law in the Digital age Ahmed Raza, 2025-10-14 Artificial intelligence has emerged as one of the most consequential forces shaping legal social and institutional life in the twenty first century Its impact extends across both public and private spheres transforming the administration of justice the structure of markets the protection of privacy and the expression of democratic values The rapid integration of algorithmic

technologies into everyday decision making presents a dual challenge for constitutional law how to ensure accountability and fairness while enabling innovation and technological growth This work examines the intersection of artificial intelligence and constitutional governance through that dual lens supervision and facilitation It argues that the constitutional framework of the United States must evolve not simply to restrain the misuse of technology but also to guide and support its lawful and beneficial deployment Artificial intelligence should be governed by legal principles that uphold transparency equality and human dignity yet it should also be fostered through an enabling legal environment that encourages research innovation and responsible institutional adoption The analysis proceeds from the understanding that constitutional law is not a static instrument of control but a dynamic framework for governance Doctrines such as due process equal protection freedom of expression and separation of powers provide the normative structure through which the use of artificial intelligence can be supervised without impeding its potential to enhance human welfare and institutional efficiency By refining these doctrines and extending them to algorithmic contexts the law can preserve its foundational commitments while adapting to new technological realities The concept of Algorithmic Constitutionalism developed in this work reflects that balance It envisions a constitutional order in which artificial intelligence operates under legal safeguards that prevent arbitrariness and bias while simultaneously benefiting from a policy framework that incentivizes normative innovation This approach seeks harmony between regulation and progress ensuring that constitutional amendments legislative measures and institutional practices together promote a culture of lawful technological advancement

Artificial Intelligence, Media and International Security Fatima Roumate, Amaro La Rosa, 2025-07-26 This edited volume explores the complex relationship between AI media and international security focusing on key criteria First identifying AI applications like automated content and deepfakes Second evaluating security risks including AI driven information and psychological warfare while considering geopolitical factors in a shifting global landscape Written by a collection of international experts across diverse disciplines and regions in the world the chapters take a multidimensional perspective to provide a holistic understanding of the various implications of the use of AI in media This volume contributes to research on AI s intersection with media and international security examining AI s implications challenges and malicious uses It also explores media diplomacy s role in navigating shifts in global power dynamics Bridging political science international relations security studies journalism and communications this book will benefit researchers and students across these fields

Artificial Intelligence, Ethics and the Future of Warfare Kaushik Roy, 2024-05-23 This volume examines how the adoption of AI technologies is likely to impact strategic and operational planning and the possible future tactical scenarios for conventional unconventional cyber space and nuclear force structures In addition to developments in the USA Britain Russia and China the volume also explores how different Asian and European countries are actively integrating AI into their military readiness It studies the effect of AI and related technologies in training regimens and command structures The book also covers the ethical and legal aspects of

AI augmented warfare The volume will be of great interest to scholars students and researchers of military and strategic studies defence studies artificial intelligence and ethics *Research Handbook on Warfare and Artificial Intelligence* Robin Geiß, Henning Lahmann, 2024-07-05 The Research Handbook on Warfare and Artificial Intelligence provides a multi disciplinary exploration of the urgent issues emerging from the increasing use of AI supported technologies in military operations Bringing together scholarship from leading experts in the fields of technology and security from across the globe it sheds light on the wide spectrum of existing and prospective cases of AI in armed conflict *Navigating the Intersection of Artificial Intelligence, Security, and Ethical Governance* Reza Montasari, Hamid Jahankhani, Anthony J. Masys, 2024-11-26 This book not only equips the readers with the essential knowledge to gain a nuanced understanding of the present cyber threat landscape but also offers strategic foresight to navigate the challenges looming on our digital horizon In the ever evolving realm of cyberspace this meticulously crafted book reveals the escalating cyber threats challenging the foundations of global security and governance Unprecedented in its synthesis of academic rigour and practical insight *Sentinels of Cyberspace Navigating the Intersection of AI Security and Ethical Governance in Western Democracies* demystifies the complex relationship between cybersecurity and AI Rich with comprehensive literature reviews insightful case studies and forward looking perspectives this book serves as an indispensable guide for scholars policymakers practitioners researchers and all those concerned with the security fabric of Western democracies Its unique blend of theoretical frameworks and real world scenarios creates a transformative bridge between academic discourse and practical application From foundational explorations of AI to in depth analyses of its applications in decision making crime analysis counter terrorism and predictive modelling each chapter weaves a narrative that not only articulates contemporary challenges but also lays the groundwork for practical solutions This transformative work actively engages with ethical dimensions ensuring a delicate balance between theoretical insights and actionable considerations More than just informative *Sentinels of Cyberspace Navigating the Intersection of Artificial Intelligence Security and Ethical Governance in Western Democracies* is a roadmap to navigate the intricate landscape of cybersecurity and AI integration propelling the discourse towards innovative solutions For those intrigued by the evolving dynamics of our digital era this book is an essential companion offering strategic foresight to understand and address the pressing issues at the intersection of technology security and governance **EYE TO EYE IN AI: Developing Artificial Intelligence for National Security and Defense** Margarita Konaev, 2022 *Armament, Arms Control and Artificial Intelligence* Thomas Reinhold, Niklas Schörnig, 2022-10-08 Looking at a variety of armament sectors the book examines how Artificial Intelligence AI impacts the fields of armament and arms control how existing arms control measures will be affected by AI and what new approaches based on AI have been or are currently developed The significant increase in computing power the increasing reliance on software and the advent of narrow AI and deep learning algorithms all have the potential to lead to disruptive changes for military operations and warfare rendering many classical arms control

instruments less effective or even useless On the other hand AI might lead to completely new arms control approaches raising the effectiveness and reliability of new verification measures To provide a common understanding the book starts by presenting a general introduction to the state of the art in artificial intelligence and arms control and how the two topics are interrelated The second part of the book looks at examples from various fields of weapon technology including weapons of mass destruction WMD conventional armament and emerging technologies The final section offers a cross cutting perspective based on the examples presented in the second part This volume will appeal to students and scholars of international relations as well as policy makers and practitioners interested in a better understanding of peace and security studies in general and armament and arms control in particular with a strong focus on AI

Artificial Intelligence in Cyber Security: Impact and Implications Reza Montasari, Hamid Jahankhani, 2021-11-26 The book provides a valuable reference for cyber security experts digital forensic practitioners and network security professionals In recent years AI has gained substantial attention from researchers in both academia and industry and as a result AI's capabilities are constantly increasing at an extraordinary pace AI is considered to be the Fourth Industrial Revolution or at least the next significant technological change after the evolution in mobile and cloud computing technologies AI is a vehicle for improving the quality of our lives across every spectrum with a broad range of beneficial applications in various sectors Notwithstanding its numerous beneficial use AI simultaneously poses numerous legal ethical security and privacy challenges that are compounded by its malicious use by criminals These challenges pose many risks to both our privacy and security at national organisational and individual levels In view of this this book aims to help address some of these challenges focusing on the implication impact and mitigations of the stated issues The book provides a comprehensive coverage of not only the technical and ethical issues presented by the use of AI but also the adversarial application of AI and its associated implications The authors recommend a number of novel approaches to assist in better detecting thwarting and addressing AI challenges The book also looks ahead and forecasts what attacks can be carried out in the future through the malicious use of the AI if sufficient defences are not implemented The research contained in the book fits well into the larger body of work on various aspects of AI and cyber security It is also aimed at researchers seeking to obtain a more profound knowledge of machine learning and deep learning in the context of cyber security digital forensics and cybercrime Furthermore the book is an exceptional advanced text for Ph D and master's degree programmes in cyber security digital forensics network security cyber terrorism and computer science Each chapter contributed to the book is written by an internationally renowned expert who has extensive experience in law enforcement industry or academia Furthermore this book blends advanced research findings with practice based methods to provide the reader with advanced understanding and relevant skills

Artificial Intelligence in the Age of Nanotechnology Jaber, Wassim, 2023-12-07 In the world of academia scholars and researchers are confronted with a rapidly expanding knowledge base in Artificial Intelligence AI and nanotechnology The integration of

these two groundbreaking fields presents an intricate web of concepts innovations and interdisciplinary applications that can overwhelm even the most astute academic minds Staying up to date with the latest developments and effectively navigating this complex terrain has become a pressing challenge for those striving to contribute meaningfully to these fields Artificial Intelligence in the Age of Nanotechnology is a transformative solution meticulously crafted to address the academic community s knowledge gaps and challenges This comprehensive book serves as the guiding light for scholars researchers and students grappling with the dynamic synergy between AI and Nanotechnology It offers a structured and authoritative exploration of the core principles and transformative applications of these domains across diverse fields By providing clarity and depth it empowers academics to stay at the forefront of innovation and make informed contributions

The Centaur's Dilemma James E. Baker, 2020-12-01 Assessing the legal and practical questions posed by the use of artificial intelligence in national security matters The increasing use of artificial intelligence poses challenges and opportunities for nearly all aspects of society including the military and other elements of the national security establishment This book addresses how national security law can and should be applied to artificial intelligence which enables a wide range of decisions and actions not contemplated by current law James Baker an expert in national security law and process adopts a realistic approach in assessing how the law even when not directly addressing artificial intelligence can be used or even misused to regulate this new technology His new book covers among other topics national security process constitutional law the law of armed conflict arms control and academic and corporate ethics With his own background as a judge he examines potential points of contention and litigation in an area where the law is still evolving and might not yet provide clear and certain answers The Centaur s Dilemma also analyzes potential risks associated with the use of artificial intelligence in the realm of national security including the challenges of machine human interface operating or not operating the national security decision making process at machine speed and the perils of a technology arms race Written in plain English The Centaur s Dilemma will help guide policymakers lawyers and technology experts as they deal with the many legal questions that will arise when using artificial intelligence to plan and carry out the actions required for the nation s defense

Artificial Intelligence in Intelligence Agencies, Defense and National Security Nicolae Sfetcu, 2024-05-15 This book explores the use of artificial intelligence by intelligence services around the world and its critical role in intelligence analysis defense and national security Intelligence services play a crucial role in national security and the adoption of artificial intelligence technologies has had a significant impact on their operations It also examines the various applications of artificial intelligence in intelligence services the implications challenges and ethical considerations associated with its use The book emphasizes the need for continued research and development in the field of artificial intelligence to ensure that intelligence services and overall national defense and security can effectively adapt to emerging threats

CONTENTS Abstract Introduction The evolution of AI Uses and applications Implications and advantages Strategies and implementation A successful example

SABLE SPEAR Challenges and limitations Conclusion Bibliography DOI 10 58679 MM72104 ARTIFICIAL INTELLIGENCE AND NATIONAL SECURITY: THE IMPORTANCE OF THE AI ECOSYSTEM. ANDREW P. HUNTER.,2022 *Emerging Digital Technologies and India's Security Sector* Pankaj K Jha,Arun Teja Polcumpally,Vedant Saigal,2024-06-07 This book is an introductory account for policy makers academia and interested readers on the digital technologies on Indian Military It covers three technologies AI Blockchain and Quantum communications and provides a detailed account on the military use cases It evaluates the readiness of Indian Military in these technologies A foundational text it not only provides key policy analysis but also identifies the gray areas for the future research in the security studies The volume will be essential reading for scholars and researchers of military and strategic studies especially future warfare AI and Blockchain and South Asian studies It will be of interest to general readers as well **Emerging Technologies, Novel Crimes, and Security** Hedi Nasheri,2024-12-30 This book provides a holistic overview of the complexities of modern technological advances and their implications for crime and security It examines the societal dilemmas that accompany these technologies their strategic impact on geopolitics governments business and civil society The increasingly interconnected world gives rise to novel crimes and creates a new complex set of threats Understanding this landscape is essential to strategizing for the prevention protection mitigation and risk assessment of technology related crime Practical and approachable this book builds knowledge and awareness of the impact of emerging technologies on crime and security among professionals students academicians researchers and policymakers American Defense Policy Miriam Krieger,Lynne Chandler Garcia,Lynne M. Chandler Garcia,John Riley,Will Atkins,2021-08-10 Organized into three parts the ninth edition traces the impact that societal changes and emerging technologies are having as force enablers game changers or disrupters of American defense policy **Cyber Security in the Age of Artificial Intelligence and Autonomous Weapons** Mehmet Emin Erendor,2024-11-19 Although recent advances in technology have made life easier for individuals societies and states they have also led to the emergence of new and different problems in the context of security In this context it does not seem possible to analyze the developments in the field of cyber security only with information theft or hacking especially in the age of artificial intelligence and autonomous weapons For this reason the main purpose of this book is to explain the phenomena from a different perspective by addressing artificial intelligence and autonomous weapons which remain in the background while focusing on cyber security By addressing these phenomena the book aims to make the study multidisciplinary and to include authors from different countries and different geographies The scope and content of the study differs significantly from other books in terms of the issues it addresses and deals with When we look at the main features of the study we can say the following Handles the concept of security within the framework of technological development Includes artificial intelligence and radicalization which has little place in the literature Evaluates the phenomenon of cyber espionage Provides an approach to future wars Examines the course of wars within the framework of the Clausewitz trilogy Explores ethical elements Addresses

legal approaches In this context the book offers readers a hope as well as a warning about how technology can be used for the public good Individuals working in government law enforcement and technology companies can learn useful lessons from it

Intelligence Leadership and Governance Patrick F. Walsh, 2020-11-22 This book explores the challenges leaders in intelligence communities face in an increasingly complex security environment and how to develop future leaders to deal with these issues As the security and policy making environment becomes increasingly complicated for decision makers the focus on intelligence agencies to deliver more value will increase This book is the first extensive exploration of contemporary leadership in the context of intelligence agencies principally in the Five Eyes nations i e Australia United States United Kingdom Canada and New Zealand It provides a grounded theoretical approach to building practitioner and researcher understanding of what individual and organisational factors result in better leadership Using interviews from former senior intelligence leaders and a survey of 208 current and former intelligence leaders the work explores the key challenges that leaders will likely face in the twenty first century and how to address these It also explores what principles are most likely to be important in developing future leaders of intelligence agencies in the future This book will be of much interest to students of intelligence studies strategic studies leadership studies security studies and international relations

Artificial Intelligence as a Disruptive Technology Rosario Girasa, 2020-01-11 Artificial intelligence AI is the latest technological evolution which is transforming the global economy and is a major part of the Fourth Industrial Revolution This book covers the meaning types subfields and applications of AI including U S governmental policies and regulations ethical and privacy issues particularly as they pertain and affect facial recognition programs and the Internet of Things IoT There is a lengthy analysis of bias AI s effect on the current and future job market and how AI precipitated fake news In addition the text covers basics of intellectual property rights and how AI will transform their protection The author then moves on to explore international initiatives from the European Union China s New Generation Development Plan other regional areas and international conventions The book concludes with a discussion of super intelligence and the question and applicability of consciousness in machines The interdisciplinary scope of the text will appeal to any scholars students and general readers interested in the effects of AI on our society particularly in the fields of STS economics law and politics

The book delves into Artificial Intelligence And National Security. Artificial Intelligence And National Security is a crucial topic that needs to be grasped by everyone, ranging from students and scholars to the general public. The book will furnish comprehensive and in-depth insights into Artificial Intelligence And National Security, encompassing both the fundamentals and more intricate discussions.

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Artificial Intelligence And National Security Introduction

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pinion $z_1 = 20$ gear $z_2 = 40$ reference diameter of pinion $d_1 = 20$ reference diameter of gear $d_2 = 40$ center distance $a = 40$
tip clearance $c = 0.25$

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web calculation process results $a_m = 2$ $f_u = m \cdot g \cdot \mu \cdot m \cdot a \cdot f_u$ kn permissible feed force f_u tab f_u zul per f_u zul per f_u 4.05 kn kn
condition f_u zul per f_u kn kn fulfilled rack and pinion drive calculation and selection v_t b calculation example values given
travelling operation mass to be moved $m = 820$ kg

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