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This book documents the political ecosystem that legitimized violent military action against military-age males in US military operations after September 11, 2001. It first introduces the military-age male as a category used to identify insurgent combatants who have blended into civilian environments. Though US officials maintained that military-age males were not automatically assumed to be combatants, defense and intelligence professionals nevertheless used biases related to gender, age, religion and race to interpret the battlespace. Based on an analysis of the Obama administration's decision to exclude adolescent boys and men from drone warfare's collateral damage count, and an examination of similar problems with combatant identification under the Bush administration, the author argues that the military-age male category contributed to the deterioration of civilian protection. The concluding chapters discuss the link between counterinsurgency, drone warfare, and emerging trends in artificial intelligence and autonomy in weapons systems, highlighting the relation between algorithmic discrimination and the misidentification of civilians as combatants.

This edition gives a basic idea of how drones work. Basic mathematics, flight dynamics, protocols, technologies etc. are introduced in this content to design/ develop drones from scratch. Book is written with real time results of our project (Drones and their strategies). The chapters in this book cover a broad range of topics the FAA wants you to know. The initial aeronautical knowledge test includes the following areas of knowledge:»Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation»Airspace classification, operating requirements, and flight restrictions affecting small

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unmanned aircraft operation»Aviation weather sources and effects of weather on small unmanned aircraft performance»Small unmanned aircraft loading»Emergency procedures»Crew resource management»Radio communication procedures»Determining the performance of small unmanned aircraft»Physiological effects of drugs and alcohol»Aeronautical decision-making and judgment»Airport operations

Readers also have access to a series of sample test questions. Readers should practice with these test questions until achieving at least a score of 90% before attempting the exam. The author strives to make the questions as similar as possible to the official FAA Exam. However, the FAA does not provide specific test-questions to the public. The sample questions here are based on the information available through documentation and research. The sample questions in this book refer to legends and figures from the FAA-CT-8080-2H Airman Knowledge Testing Supplement. FAA-CT-8080-2H is the testing supplement provided to test-takers during the official aeronautical knowledge test. Readers need to familiarize themselves with these legends and figures before attempting to take the test. For the best experience, the author recommends the printed version of this book.

A complete reference guide to the theory, design, and applications of infrared technology

Rapid advances in infrared (IR), photonic, and electrooptic technologies have given rise to sophisticated sensors with important commercial, industrial, and military applications-from remote sensing, surveillance, and high-resolution TV to home security systems. This book provides scientists and engineers with a comprehensive, state-of-the-art guide to the analysis and development of IR, photonic, and electrooptical devices and systems for specific applications. Well-known industry expert A. R. Jha compiles and consolidates the latest data

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on IR sources and systems, presenting fully referenced technical information plus numerical examples illustrating performance parameters and design aspects for an amazingly broad array of applications. Basic IR theory is also provided. Coverage includes: * Transmission characteristics of optical signals through the atmosphere, including effects of scattering, absorption, turbulence, and diffraction * Performance characteristics and capabilities of various IR sources, including state-of-the-art laser technologies * Performance capabilities of IR detectors and focal planar arrays (FPAs) as well as passive and active IR and electronic devices * Potential and existing applications in such diverse fields as medicine, telecommunications, space research, missile systems, and defense IR signature analysis and measurement techniques

With the emergence of smart technology and automated systems in today's world, artificial intelligence (AI) is being incorporated into an array of professions. The aviation and aerospace industry, specifically, is a field that has seen the successful implementation of early stages of automation in daily flight operations through flight management systems and autopilot. However, the effectiveness of aviation systems and the provision of flight safety still depend primarily upon the reliability of aviation specialists and human decision making. The Handbook of Research on Artificial Intelligence Applications in the Aviation and Aerospace Industries is a pivotal reference source that explores best practices for AI implementation in aviation to enhance security and the ability to learn, improve, and predict. While highlighting topics such as computer-aided design, automated systems, and human factors, this publication explores the enhancement of global aviation security as well as the methods of modern information systems in the aeronautics industry. This book is ideally designed for pilots, scientists,

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engineers, aviation operators, air crash investigators, teachers, academicians, researchers, and students seeking current research on the application of AI in the field of aviation.

This book aims to further build capacity in the conservation community to use drones for conservation and inspire others to adapt emerging technologies for conservation.

Terrorism: Commentary on Security Documents is a series that provides primary source documents and expert commentary on various topics relating to the worldwide effort to combat terrorism. Among the documents collected are transcripts of Congressional testimony, reports by such federal government bodies as the Congressional Research Service (CRS) and the Government Accountability Office (GAO), United Nations Security Council resolutions, reports and investigations by the United Nations Secretary-General and other dedicated UN bodies, and case law from the U.S. and around the globe covering issues related to terrorism. Most volumes focus on a single theme, and inside each volume the documents usually appear within topic-based categories. The series also includes a subject index and other indices that guide the user through this complex area of the law. Volume 134, *The Domestic Use of Unmanned Aerial Vehicles*, examines an issue that is just now beginning to emerge as a subject of public debate, as the implications of new technological capabilities begin to become clear and the legal limits of the uses of those technologies begin to be

tested. Professor Douglas C. Lovelace, Jr., who has provided the introductory commentary to this volume, has selected several illuminating documents that examine various aspects of this issue. These documents consider the expanding use of unmanned aerial vehicles (or drones) for surveillance activities by both border enforcement and domestic law enforcement officials; the privacy implications of the potentially highly intrusive surveillance capabilities of drone technology; and concerns that drones will be used for non-surveillance purposes within U.S. borders. Other topics include the state of the unmanned aircraft manufacturing sector in the U.S., the legal implications of the integration of drones into domestic airspace, and the constitutional implications of the expanding use of facial recognition technology.

Drones go where humans fear or are unable to tread. This remains true for drones in the military and law enforcement sphere, but also for venues that could popularize drones: the entertainment and media sectors. This book covers the background of drone technology with detailed explorations of how drones may both revolutionize (and complicate) the fields of newsgathering, film and television production, sports and special event broadcasts, photography, and much more. Readers will also benefit from the book's in-depth look at drones' implications for personal privacy, copyright, and other legal implications, such as

the regulatory environment surrounding drone use itself.

Over 3,800 total pages ... Just a sample of the studies / publications included:
Drone Swarms Terrorist and Insurgent Unmanned Aerial Vehicles: Use, Potentials, and Military Implications Countering A2/AD with Swarming Stunning Swarms: An Airpower Alternative to Collateral Damage Ideal Directed-Energy System To Defeat Small Unmanned Aircraft System Swarms Break the Kill Chain, not the Budget: How to Avoid U.S. Strategic Retrenchment Gyges Effect: An Ethical Critique of Lethal Remotely Piloted Aircraft Human Robotic Swarm Interaction Using an Artificial Physics Approach Swarming UAS II Swarming Unmanned Aircraft Systems Communication Free Robot Swarming UAV Swarm Attack: Protection System Alternatives for Destroyers Confidential and Authenticated Communications in a Large Fixed-Wing UAV Swarm UAV Swarm Behavior Modeling for Early Exposure of Failure Modes Optimized Landing of Autonomous Unmanned Aerial Vehicle Swarms Mini, Micro, and Swarming Unmanned Aerial Vehicles: A Baseline Study UAV Swarm Operational Risk Assessment System SmartSwarms: Distributed UAVs that Think Command and Control Autonomous UxV's UAV Swarm Tactics: An Agent-Based Simulation and Markov Process Analysis A Novel Communications Protocol Using Geographic Routing for Swarming UAVs Performing a Search Mission Accelerating the Kill

Chain via Future Unmanned Aircraft Evolution of Control Programs for a Swarm of Autonomous Unmanned Aerial Vehicles AFIT UAV Swarm Mission Planning and Simulation System A Genetic Algorithm for UAV Routing Integrated with a Parallel Swarm Simulation Applying Cooperative Localization to Swarm UAVS Using an Extended Kalman Filter A Secure Group Communication Architecture for a Swarm of Autonomous Unmanned Aerial Vehicles Braving the Swarm: Lowering Anticipated Group Bias in Integrated Fire/Police Units Facing Paramilitary Terrorism Distributed Beamforming in a Swarm UAV Network Integrating UAS Flocking Operations with Formation Drag Reduction Tracking with a Cooperatively Controlled Swarm of GMTI Equipped UAVS Using Agent-Based Modeling to Evaluate UAS Behaviors in a Target-Rich Environment Experimental Analysis of Integration of Tactical Unmanned Aerial Vehicles and Naval Special Warfare Operations Forces Target Acquisition Involving Multiple Unmanned Air Vehicles: Interfaces for Small Unmanned Air Systems (ISUS) Program Tools for the Conceptual Design and Engineering Analysis of Micro Air Vehicles Architectural Considerations for Single Operator Management of Multiple Unmanned Aerial Vehicles UAV or Drones for Remote Sensing Applications Volume 2 MDPI

These proceedings represent the work of contributors to the 16th International

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Conference on Cyber Warfare and Security (ICCWS 2021), hosted by joint collaboration of Tennessee Tech Cybersecurity Education, Research and Outreach Center (CEROC), Computer Science department and the Oak Ridge National Laboratory, Tennessee on 25-26 February 2021. The Conference Co-Chairs are Dr. Juan Lopez Jr, Oak Ridge National Laboratory, Tennessee, and Dr. Ambareen Siraj, Tennessee Tech's Cybersecurity Education, Research and Outreach Center (CEROC), and the Program Chair is Dr. Kalyan Perumalla, from Oak Ridge National Laboratory, Tennessee.

Drones are found in the airspace throughout the world and are more popular now than ever before. We see them in the newspaper, on the TV, in films, at sporting events, and soon, they might be delivering our shopping. One of the most significant developments in contemporary warfare is the use of unmanned aerial vehicles (UAVs) or drones as they are more commonly known. Drones can fly autonomously or be controlled by remote control – their deployment is transforming the way wars are fought across the globe. Drones are not only used for fighting wars but for a wide-range of daily tasks such as photography, mapping, policing, delivery, search and rescue, meteorology and many more. Drones explores the history behind unmanned aircraft, it explains how they work and features the most well-known military and civilian drones in action today.

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From the armed and deadly MQ-9 Reaper, the long endurance RQ-4 Global Hawk to the small hand-launched Cropcam and the Remus autonomous underwater vehicle. Illustrated with 200 colour photographs and artworks, Drones is an exciting, accessibly written narrative about the latest in military and civilian aviation technology.

This comprehensive resource explains the development of UAVs, drone threats, counter-UAV systems, and strategies to handle UAVs, focusing on the practical aspects of counter-unmanned aerial vehicle (UAV) systems and technologies. Theory, technical and operational practice with insights from industry and policing are covered, and the full rogue drone threat landscape and counter-drone technologies and systems is explored. The book provides insight into counter-drone strategy, developing effective counter-drone strategies and measures, as well as counter-drone programs and the regulatory frameworks governing the use of drones. It includes analysis of future drone and counter-drone challenges and highlights ongoing research and innovation activities and an examination of future drone technologies. Written by authors who have extensive academic, research, innovation, technical, industry and police operational investigative expertise at international level, this book is useful for the aviation sector, law enforcement and academia.

Read Along or Enhanced eBook: Explores the fascinating world of drones. With colorful spreads featuring fun facts, sidebars, and a "How It Works" feature, the book provides an inspiring look at this exciting technology.

From internationalist and nonpartisan progressive, author of "Same Ole or Something New"

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and "BREAKDOWN," comes another thought-provoking work NO LAND AN ISLAND NO PEOPLE APART challenging readers to face the "callously immoral, lawless, relentlessly regressive model in U.S. foreign relations"; and embrace an authentic progressivism. "This book is unconcerned with political figures per se (or their parties)," Bennett says, "but rather with a malignant system maintained by a parade of tentacled regimes whose official (elected) base of operation begins in the capital of the United States, a system that is seemingly endorsed by the people of the United States." The author maintains that the United States has created and entrenched a narrow worldview, espousing an attitude that all land and peoples belong to America to use and abuse, to pillage and plunder. In this work, Dr. Carolyn LaDelle Bennett takes a second look at U.S. relations with Afghanistan and Pakistan, Iran and Iraq, Bahrain and Yemen, Libya and Somalia; and sees a continuing BREAKDOWN that worsens in act and consequence. She then presents her own ideas and worldview; and a challenge to embrace a nonviolent, transformative, inclusive progressivism imbued with a sense of global society, a sensibility that inspires constructive, continuous forward movement. Bold and daring, NO LAND AN ISLAND NO PEOPLE APART is an educator's guide, a philosopher's critique, a news writer's eye, an internationalist's sensibility chronicling U.S. foreign relations violence and the human costs East Africa crossing the Red Sea and Gulf of Aden into Persia, the Middle East, South Central Asia.

This exciting new text brings together in one volume an overview of the many reflections on how we might address the problems and limitations of a state-centred approach in the discipline of International Relations (IR). The book is structured into chapters on key concepts, with each providing an introduction to the concept for those new to the field of critical politics –

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including undergraduate and postgraduate students – as well as drawing connections between concepts and thinkers that will be provocative and illuminating for more established researchers in the field. They give an overview of core ideas associated with the concept; the critical potential of the concept; and key thinkers linked to the concept, seeking to address the following questions: How has the concept traditionally been understood? How has the concept come to be understood in critical thinking? How is the concept used in interrogating the limits of state centrism? What different possibilities for engaging with international relations have been envisioned through the concept? Why are such possibilities for alternative thinking about international relations important? What are some key articles and volumes related to the concept which readers can go for further research? Drawing together some of the key thinkers in the field of critical International Relations and including both established and emerging academics located in Asia, Europe, Latin America and North America, this book is a key resource for students and scholars alike.

Information and communication technologies now play a big part in the daily personal and professional lives of us all. Cyberspace – the interconnected digital technology domain which underlies communications, transportation, state administration, finance, medicine and education – is part of all our lives. In the last decade, the digital revolution in the South Eastern European (SEE) countries has given more people there access to communication, education, and news than ever before, and we should not underestimate the power of these information and communication technologies. This book presents papers from the NATO Science for Peace and Security Advanced Training Course (ATC) Toward Effective Cyber Defense in Accordance With the Rules of Law, held in Ohrid, Republic of North Macedonia, in November

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2019. The course focused on the SEE countries, where, in general, governments have paid appropriate attention to developing cyber defense capacities. In some cases, however, limitations in technological resources have restricted the capabilities of governments to respond to the ever-evolving challenges of defending the cyber domain. Laws and regulations differ from country to country, and the topics covered here were carefully chosen to cover issues in laws and regulations, cyber defense policies and their practical implementation. The series of papers presented in this book will provide a deeper understanding of these topics for scholars, associated professionals in the public and private sectors, and for a more general audience.

This book provides a clear insight about IoD and its requirements, protocols, performance improvement, evaluation methods and challenging aspects, to the readers at one place. The recent enhancement of integrating drone with the Internet of things (IoT) technology promises tremendous global development. The top applications of the Internet of Drones (IoD) are expected to be infrastructure & building monitoring, fire service systems, insurance investigations, retail fulfilment, agriculture and forensic evidence collections. Conventional drone technology is enhanced with the Internet and other emerging technologies such as cloud computing, big data, artificial intelligence and communication networks which open up for enormous opportunities like ahead for on-demand service-oriented and user-friendly IoD applications. This book presents extensive knowledge about the role of IoT and emerging technology in drone networks. It focuses on major research areas of the Internet of Drones and its related applications. It provides a strong knowledge platform towards the Internet of Drones for graduates, researchers, data scientists, educators and drone hobbyists.

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This book introduces the concept of using drones as a teaching tool to explore the fundamental principles, technology and applications of Cyber-Physical Systems (CPS). A short introduction sets CPS in the context of the 4th industrial revolution, and describes various CPS technologies including self-driving cars, commercial intelligent drones and mobile robots, in which artificial intelligence routinely supports smarter decision-making. The core of the book then focuses on commercially available drones, the only available system offering the advantage of cyber-physical bridging through 3D autonomous dynamic flying in classroom conditions. Chapters describe drone technology, including location sensors and imaging systems. CPS theory is explained through typical drone flying procedures and do-it-yourself (DIY) aerial photography in which communication between sensors, actuators and controllers occurs through cyber-physical bi-directional bridging. This book opens new possibilities in fostering 4th industrial revolution literacy, introducing relevant examples from readily available equipment, making core elements of cyber-physical bridging accessible. It is aimed primarily at those students who have an interest in CPS, drones and those from disciplines that are concerned with spatial information.

"Drone Warrior is an all-too-real terror scenario cloaked in the guise of a novel. This tale has it all-a gripping story, characters you'll love or hate, high-tech gee-

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whizzery rendered in exquisite detail. Take a seat and hang on. You're in for a hell of a ride." Robert Gandt, award-winning author of "The President's Pilot" and thirteen other military and aviation classics. Intelligence sources have uncovered a terrorist threat against the United States. Military downsizing has increased reliance on robotic warriors as force multipliers replacing the Man-In-The-Sand approach to war fighting. An epic battle fought exclusively by drones is just beyond the horizon. A countdown to attack has started with the United States FPCON level jumping abruptly to Charlie. The CIA, NSA, and NRO are scouring the earth for weapons of mass destruction. First term President John Parker insist on a business as usual appearance to the public while USSOC Admiral James Buzz Robbins has ordered Spec Ops Warriors to guard government officials and deploys high flying unmanned aerial vehicles to search and destroy the terrorist enemy. In the background Drone prodigy James Barlow unknowingly provides a solution to a frightening scenario. Sit down strap in and hang on for a literary roller coaster ride that could bring the United States to its knees.

The increasing civilian use of Unmanned Aircraft Systems (UASs) is not yet associated with a comprehensive regulatory framework, however new rules are rapidly emerging which aim to address this shortfall. This insightful book offers a thorough examination of the most up-to-date developments, and considers

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potential ways to address the various concerns surrounding the use of UASs in relation to safety, security, privacy and liability.

When a ruthless political regime led by Vittori Santorini seizes control of a planet still recovering from an alien invasion, Kafari Khristinova takes on her former colleagues to free the world from the evil Santorini.

This book is a printed edition of the Special Issue "UAV or Drones for Remote Sensing Applications" that was published in Sensors

General knowledge has immense importance in various competitive exams like UPSC, State Services, SSC, Banking, Railway, NDA, MBA entrance exams and various service exams in private as well as public sectors. This edition contains detailed discussion and analysis of the current GK topics and MCQs with for further practice about the latest and most important happenings in political, economic, social, sports and entertainment fields all over the world. All the topics are presented with facts and a brief description, so that the reader gets full knowledge and understanding in all the key areas of exams. Some maps, tables, etc. are also included for further clarity.

This book is an everything-included approach to understanding drones, creating an organization around using unmanned aircraft, and outlining the process of safety to protect that program. It is the first-of-a-kind safety-focused text book for

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unmanned aircraft operations, providing the reader with a required understanding of hazard identification, risk analysis, mitigation, and promotion. It enables the reader to speak the same language as any civil aviation authority, and gives them the toolset to create a safety risk management program for unmanned aircraft. The main items in this book break down into three categories. The first approach is understanding how the drone landscape has evolved over the last 40 years. From understanding the military components of UAS to the standards and regulations evolution, the reader garners a keen understanding of where we came from and why it matters for moving forward. The second approach is in understanding how safety risk management in aviation can be applied to drones, and how that fits into the regulatory and legislative environment internationally. Lastly, a brief synopsis of the community landscape for unmanned aircraft is outlined with interviews from important leaders and stakeholders in the marketplace. Drones fills a gap in resources within the unmanned aircraft world. It provides a robust understanding of drones, while giving the tools necessary to apply for a certificate of authorization, enabling more advanced flight operations for any company, and developing safety risk management tools for students and career professionals. It will be a mainstay in all safety program courses and will be a required tool for any and all individuals looking to operate safely and

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successfully in the United States.

The public debate over civilian use of drones is intensifying. Variouslly called "unmanned aircraft systems", "unmanned aerial vehicles", "remotely piloted aircraft", or simply "drones", they are available for purchase by anyone for a few hundred to a few thousand dollars. They have strikingly useful capabilities. They can carry high-definition video cameras, infrared imaging equipment, sensors for aerial surveying and mapping. They can stream their video in real time. They have GPS, inertial guidance, magnetic compasses, altimeters, and sonic ground sensors that permit them to fly a preprogrammed flightplan, take off and land autonomously, hover and orbit autonomously with the flick of a switch on the DRone Operator's ("DROPs") console. The benefits they can confer on law enforcement, journalism, land-use planning, real estate sales, critical infrastructure protection and environmental preservation activities are obvious. However, their proliferation in response to these demands will present substantial risks to aviation safety. How to ensure the safety of drone operations perplexes aviation regulators around the world. They are inexpensive consumer products, unsuited for traditional requirements for manned aircraft costing hundreds of thousands or millions of dollars and flown only by licensed pilots who have dedicated significant parts of their lives and their wealth to obtaining licenses.

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Regulatory agencies in Europe and Asia are ahead of US regulators in creating spaces for commercial use. Over the next several years, legal requirements must be crystallized, existing operators of helicopter and airplanes must refine their policy positions and their business plans to take the new technologies into account, and all businesses from the smallest entrepreneur to large conglomerates must decide whether and how to use them. Domesticating Drones offers rigorous engineering, economics, legal and policy theory and doctrine on this important and far-reaching development within aviation.

Drones are hard at work in the sky and around the world. Some rescue swimmers in the ocean, while others deliver food and medical supplies to remote villages. Inside Drones introduces readers to the uses of drones, the hardware and software that make drones possible, and the future of drone technology.

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