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Minefill 2020-2021 - Ferri Hassani 2021-06-02
The series of International Symposiums on Mining with Backfill explores both the theoretical and practical aspects of the application of mine fill, with many case studies from both underground and open-pit mines. Minefill attendees and the Proceedings book audience include mining practitioners, engineering students, operating and regulatory professionals, consultants, academics, researchers, and interested individuals and groups. The papers presented at Minefill symposiums regularly offer the novelties and most modern technical solutions in technology, equipment, and research. In that way, the papers submitted for the Minefill Symposia represent the highest quality and level in the conference domain. For the 2020-2021 edition organizers hope that the papers presented in this publication will also be received with interest by readers around the world, providing inspiration and valuable examples for industry and R&D research.

The Show I'll Never Forget - Sean Manning 2009-02-23
In The Show I'll Never Forget, writer Sean Manning has gathered an amazing array of unforgettable concert memories from a veritable A-list of acclaimed novelists, poets, biographers, cultural critics, and songwriters. Their candid, first-person recollections reveal as much about the writers' lives at the time as they do about the venues where the shows occurred or the artists onstage. Ishmael Reed on Miles Davis Luc Sante on Public Image Ltd. Heidi Julavits on Rush Daniel Handler and Andrew Sean Greer on Metric Diana Ossana on Led Zeppelin Maggie Estep on Einsturzende Neubauten Dani Shapiro on Bruce Springsteen Gary Giddins on Titans of the Tenor! Nick Flynn on Mink DeVille Susan Straight on The Funk Festival Rick Moody on the The Lounge Lizards Jennifer Egan on Patti Smith Harvey Pekar on Joe Maneri Thurston Moore on Glen Branca, Rudolph Grey, and Wharton Tiers Chuck Klosterman on Prince Sigrid Nunez on Woodstock Jerry Stahl on David Bowie Charles R. Cross on Nirvana Marc Nesbitt on The Beastie Boys And many more . . . No matter where your musical taste falls, these often funny, occasionally sad, always thought-provoking essays-all written especially for The Show I'll Never Forget-are sure to connect with anyone who loves, or has ever loved, live music.

Advanced Automotive Fault Diagnosis - Tom Denton 2006-08-14
Diagnostics, or fault finding, is a fundamental part of an automotive technician's work, and as automotive systems become increasingly complex there is a greater need for good diagnostic skills. Advanced Automotive Fault Diagnosis is the only book to treat automotive diagnostics as a science rather than a check-list procedure. Each chapter includes basic principles and examples of a vehicle system followed by the appropriate diagnostic techniques, complete with useful diagrams, flow charts, case studies and self-assessment questions. The book will help new students develop diagnostic skills and help experienced technicians improve even further. This new edition is fully updated to the latest technological developments. Two new chapters have been added – On-board diagnostics and Oscilloscope diagnostics – and the coverage has been matched to the latest curricula of motor vehicle qualifications, including: IMI and C&G Technical Certificates and NVQs; Level 4 diagnostic units; BTEC National and Higher National qualifications from Edexcel; International Motor Vehicle qualifications such as C&G 3905; and ASE certification in the USA.

Intelligent Tools for Building a Scientific Information Platform - Robert Bembenik 2012-01-25
This book is a selection of results obtained within one year of research performed under SYNAT - a nation-wide scientific project aiming to create an infrastructure for scientific content storage and sharing for academia, education and open knowledge society in Poland. The selection refers to the research in artificial intelligence, knowledge discovery and data mining, information retrieval and natural language processing, addressing the problems of implementing intelligent tools for building a scientific information platform. The idea of this book is based on the very successful SYNAT Project Conference and the SYNAT Workshop accompanying the 19th International Symposium on Methodologies for Intelligent Systems (ISMIS 2011). The papers included in this book present an overview and insight into such topics as architecture of scientific information platforms, semantic clustering, ontology-based systems, as well as, multimedia data processing.

Data Mining and Big Data - Ying Tan 2016-07-04
The LNCS volume LNCS 9714 constitutes the refereed proceedings of the International Conference on Data Mining and Big Data, DMBD 2016, held in Bali, Indonesia, in June 2016. The 57 papers presented in this volume were carefully reviewed and selected from 115 submissions. The theme of DMBD 2016 is "Serving Life with Data Science". Data mining refers to the activity of going through big data sets to look for relevant or pertinent information.The papers are organized in 10 cohesive sections covering all major topics of the research and development of data mining and big data and one Workshop on Computational Aspects of Pattern Recognition and Computer Vision.

Draft Environmental Impact Statement and Proposed Coastal Management Program for the State of Hawaii - National Ocean Survey. Office of Coastal Zone Management 1978

Proceedings of the International Congress of Mathematicians, August 21-29, 1990, Kyoto, Japan - Ichirō Satake 1991

The Mark Lane Express, Agricultural Journal &c - 1914

Knot Theory and Its Applications - Kunio Murasugi 2009-12-29
This book introduces the study of knots, providing insights into recent applications in DNA research and graph theory. It sets forth fundamental facts such as knot diagrams, braid representations, Seifert surfaces, tangles, and Alexander polynomials. It also covers more recent developments and special topics, such as chord diagrams and covering spaces. The author avoids advanced mathematical terminology and intricate techniques in algebraic topology and group theory. Numerous diagrams and exercises help readers understand and apply the theory. Each chapter includes a supplement with interesting historical and mathematical comments.

Algal Adaptation to Environmental Stresses - L.C. Rai 2012-12-06
Algae, generally held as the principal primary producers of aquatic systems, inhabit all conceivable habitats. They have great ability to cope with a harsh environment, e.g. extremely high and low temperatures, suboptimal and supraoptimal light intensities, low availability of essential nutrients and other resources, and high concentrations of toxic chemicals, etc. A multitude of physiological, biochemical, and molecular strategies enable them to survive and grow in stressful habitats. This book presents a critical

account of various mechanisms of stress tolerance in algae, many of which may occur in microbes and plants as well.

What Technology Wants - Kevin Kelly 2011-09-27
From the author of the New York Times bestseller The Inevitable— a sweeping vision of technology as a living force that can expand our individual potential In this provocative book, one of today's most respected thinkers turns the conversation about technology on its head by viewing technology as a natural system, an extension of biological evolution. By mapping the behavior of life, we paradoxically get a glimpse at where technology is headed-or "what it wants." Kevin Kelly offers a dozen trajectories in the coming decades for this near-living system. And as we align ourselves with technology's agenda, we can capture its colossal potential. This visionary and optimistic book explores how technology gives our lives greater meaning and is a must-read for anyone curious about the future.

Novel Biomarkers in Alzheimer's Disease - Chiara Villa 2021-02-05
Alzheimer's disease (AD) represents the most common form of dementia in the elderly population worldwide. AD is characterized by progressive neurodegeneration that leads to a gradual deterioration of memory and other cognitive functions. Given the global prevalence and impact of AD, there is a critical need to establish biomarkers that can be used to detect AD in individuals before the onset of clinical signs and provide mitigating therapeutics. The aim of this Special Issue is to discuss the current knowledge as well as future perspectives on the role of biomarkers in the screening, diagnosis, treatment and follow-up of AD.

The Poincare Conjecture - Donal O'Shea 2009-05-26
Henri Poincaré was one of the greatest mathematicians of the late nineteenth and early twentieth century. He revolutionized the field of topology, which studies properties of geometric configurations that are unchanged by stretching or twisting. The Poincaré conjecture lies at the heart of modern geometry and topology, and even pertains to the possible shape of the universe. The conjecture states that there is only one shape possible for a finite universe in which every loop can be contracted to a single point. Poincaré's conjecture is one of the seven "millennium problems" that bring a one-million-dollar award for a solution. Grigory Perelman, a Russian mathematician, has offered a proof that is likely to win the Fields Medal, the mathematical equivalent of a Nobel prize, in August 2006. He also will almost certainly share a Clay Institute millennium award. In telling the vibrant story of The Poincaré Conjecture, Donal O'Shea makes accessible to general readers for the first time the meaning of the conjecture, and brings alive the field of mathematics and the achievements of generations of mathematicians whose work have led to Perelman's proof of this famous conjecture.

Idea Man - Paul Allen 2011-04-19
By his early thirties, Paul Allen was a world-famous billionaire-and that was just the beginning. In 2007 and 2008, Time named Paul Allen, the cofounder of Microsoft, one of the hundred most influential people in the world. Since he made his fortune, his impact has been felt in science, technology, business, medicine, sports, music, and philanthropy. His passion, curiosity, and intellectual rigor-combined with the resources to launch and support new initiatives-have literally changed the world. In 2009 Allen discovered that he had lymphoma, lending urgency to his desire to share his story for the first time. In this classic memoir, Allen explains how he has solved problems, what he's learned from his many endeavors-both the triumphs and the failures-and his compelling vision for the future. He reflects candidly on an extraordinary life. The book also features previously untold stories about everything from the true origins of Microsoft to Allen's role in the dawn of private space travel (with SpaceShipOne) and in discoveries at the frontiers of brain science. With honesty, humor, and insight, Allen tells the story of a life of ideas made real.

Additive Manufacturing - Amit Bandyopadhyay 2015-09-08
The field of additive manufacturing has seen explosive growth in recent years due largely in part to renewed interest from the manufacturing sector. Conceptually, additive manufacturing, or industrial 3D printing, is a way to build parts without using any part-specific tooling or dies from the computer-aided design (CAD) file of the part. Today, mo

The Viewpoints Book - Anne Bogart 2004-08-01
First major exploration of a ground-breaking new technique for actors and theatre artists.

A History of Midwifery in the United States - Dr. Joyce E. Thompson, DrPH, RN, CNM, FAAN, FACNM 2015-11-04
Written by two of the profession's most prominent midwifery leaders, this authoritative history of midwifery in the United States, from the 1600s to the present, is distinguished by its vast breadth and depth. The book spans the historical evolution of midwives as respected, autonomous health care workers and midwifery as a profession, and considers the strengths, weaknesses, threats, and opportunities for this discipline as enduring motifs throughout the text. It surveys the roots of midwifery, the beginnings of professional practice, the founding of educational institutions and professional organizations, and entry pathways into the profession. Woven throughout the text are such themes as the close link between midwives and the communities in which they live, their view of pregnancy and birth as normal life events, their efforts to promote health and prevent illness, and their dedication to being with women wherever they may be and in whatever health condition and circumstances they may be in. The text examines the threats to midwifery past and present, such as the increasing medicalization of childbearing care, midwifery's lack of a common identity based on education and practice standards, the mix of legal recognition, and reimbursement issues for midwifery practice. Illustrations and historical photos depict the many facets of midwifery, and engaging stories provide cultural and spiritual content. This is a 'must-have' for all midwives, historians, professional and educational institutions, and all those who share a passion for the history of midwifery and women. Key Features: Encompasses the most authoritative and comprehensive information available about the history of midwifery in the United States Considers the strengths, weaknesses, threats, and opportunities for midwifery Illustrated with historical photos and drawings Includes engaging stories filled with cultural and spiritual content, introductory quotes to each chapter, and plentiful chapter notes Written by two preeminent leaders in the field of midwifery

Guide to Medical Image Analysis - Klaus D. Toennies 2017-03-29
This comprehensive guide provides a uniquely practical, application-focused introduction to medical image analysis. This fully updated new edition has been enhanced with material on the latest developments in the field, whilst retaining the original focus on segmentation, classification and registration. Topics and features: presents learning objectives, exercises and concluding remarks in each chapter; describes a range of common imaging techniques, reconstruction techniques and image artifacts, and discusses the archival and transfer of images; reviews an expanded selection of techniques for image enhancement, feature detection, feature generation, segmentation, registration, and validation; examines analysis methods in view of image-based guidance in the operating room (NEW); discusses the use of deep convolutional networks for segmentation and labeling tasks (NEW); includes appendices on Markov random field optimization, variational calculus and principal component analysis.

Soft Computing: Theories and Applications - Millie Pant 2020-02-24
The book focuses on soft computing and its applications to solve real-world problems in different domains, ranging from medicine and health care, to supply chain management, image processing and cryptanalysis. It includes high-quality papers presented at the International Conference on Soft Computing: Theories and Applications (SoCTA 2018), organized by Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, Punjab, India. Offering significant insights into soft computing for teachers and researchers alike, the book inspires more researchers to work in the field of soft computing.

Integrated Care in Psychiatry - Paul Summergrad 2014-04-26
Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting is a landmark title in the field, offering a clear, detailed, and cohesive call by leading experts for coordinated care for patients with concurrent psychiatric and medical conditions. The renowned editors and authors argue that what is slowly occurring, and greatly needed at a faster pace, is nothing less than a sea change in the way that psychiatric care will be delivered. The current, mostly segregated, medical and psychiatric model of care has led to the development of competing medical and psychiatric subcultures that have resulted in a lack of dialog among health providers, administrators, and payers – and thus in less than optimal patient outcomes. To remedy this problem, the book offers a practical, insightful road map to achieving the central tenet of health reform – truly coordinated, patient-centered care where the care experience for the patient, the medical care itself, and the cost outcomes improve as the system changes

from fee-for-service to population-based health. An invaluable reference for all clinicians, policy makers, payers, administrators, and others interested in the debate surrounding healthcare systems, Integrated Care in Psychiatry: Redefining the Role of Mental Health Professionals in the Medical Setting is a major contribution to the literature and a gold standard resource.

Digital Transformation and Global Society - Daniel A. Alexandrov 2020-01-03
This volume constitutes the refereed proceedings of the 4th International Conference on Digital Transformation and Global Society, DTGS 2019, held in St. Petersburg, Russia, in June 2019. The 56 revised full papers and 9 short papers presented in the volume were carefully reviewed and selected from 194 submissions. The papers are organized in topical sections on e-polity: governance; e-polity: politics online; e-city: smart cities and urban planning; e-economy: online consumers and solutions; e-society: computational social science; e-society: humanities and education; international workshop on internet psychology; international workshop on computational linguistics.

Data Science for Economics and Finance - Sergio Consoli 2021
This open access book covers the use of data science, including advanced machine learning, big data analytics, Semantic Web technologies, natural language processing, social media analysis, time series analysis, among others, for applications in economics and finance. In addition, it shows some successful applications of advanced data science solutions used to extract new knowledge from data in order to improve economic forecasting models. The book starts with an introduction on the use of data science technologies in economics and finance and is followed by thirteen chapters showing success stories of the application of specific data science methodologies, touching on particular topics related to novel big data sources and technologies for economic analysis (e.g. social media and news); big data models leveraging on supervised/unsupervised (deep) machine learning; natural language processing to build economic and financial indicators; and forecasting and nowcasting of economic variables through time series analysis. This book is relevant to all stakeholders involved in digital and data-intensive research in economics and finance, helping them to understand the main opportunities and challenges, become familiar with the latest methodological findings, and learn how to use and evaluate the performances of novel tools and frameworks. It primarily targets data scientists and business analysts exploiting data science technologies, and it will also be a useful resource to research students in disciplines and courses related to these topics. Overall, readers will learn modern and effective data science solutions to create tangible innovations for economic and financial applications.
The Plural Society in the British West Indies - Michael Garfield Smith 1974

Rich People Problems - Kevin Kwan 2017-05-23
From the New York Times bestselling author of Crazy Rich Asians (the basis for the acclaimed major motion picture) and China Rich Girlfriend, here is the uproarious conclusion to the Crazy Rich Asians trilogy. Book Three of the Crazy Rich Asians Trilogy When Nicholas Young hears that his grandmother, Su Yi, is on her deathbed, he rushes to be by her bedside—but he's not alone. The entire Shang-Young clan has convened from all corners of the globe to stake claim on their matriarch's massive fortune. With each family member vying to inherit Tyersall Park—a trophy estate on 64 prime acres in the heart of Singapore—Nicholas's childhood home turns into a hotbed of speculation and sabotage. As her relatives fight over heirlooms, Astrid Leong is at the center of her own storm, desperately in love with her old sweetheart Charlie Wu, but tormented by her ex-husband—a man hell bent on destroying Astrid's reputation and relationship. Meanwhile Kitty Pong, married to China's second richest man, billionaire Jack Bing, still feels second best next to her new step-daughter, famous fashionista Colette Bing. A sweeping novel that takes us from the elegantly appointed mansions of Manila to the secluded private islands in the Sulu Sea, from a kidnapping at Hong Kong's most elite private school to a surprise marriage proposal at an Indian palace, caught on camera by the telephoto lenses of paparazzi, Kevin Kwan's hilarious, gloriously wicked new novel reveals the long-buried secrets of Asia's most privileged families and their rich people problems. Look for Kevin Kwan's latest novel, Sex & Vanity!
Parenting for a Peaceful World - Robin Grille 2014-04-14
Parenting for a Peaceful World is a fascinating look at how child-rearing customs have shaped societies and

major world events. It reveals how children adapt to and are influenced by different parenting styles and how safeguarding their emotional development is the key to creating a more peaceful, harmonious and sustainable world. Practical advice for raising a well-adjusted child includes tips on supporting your child's developing emotional intelligence, understanding how your childhood has influenced your own emotional make-up, and helping you achieve your full parenting potential. Drawing on leading edge brain research, child-development studies, psycho-history, and personal and clinical experience, this completely revised and updated edition of Parenting for a Peaceful World is a must-read for parents, child health professionals, teachers, and for adults seeking to heal and grow.
The Building News and Engineering Journal - 1869

MOST - Prof. Dr.-Ing. Andreas Grzemba 2012-01-01
MOST (Media Oriented Systems Transport) is a multimedia network technology developed to enable an efficient transport of streaming, packet and control data in an automobile. It is the communication backbone of an infotainment system in a car. MOST can also be used in other product areas such as driver assistance systems and home applications.
Powerhouse - James Andrew Miller 2016-08-09
"Magisterial. ... A must read for anyone who wants to work in Hollywood or just know how Hollywood works." — The Hollywood Reporter A New York Times bestseller, now updated with an afterword and exclusive new material From the #1 bestselling author behind acclaimed oral histories of Saturday Night Live and ESPN comes "the most hotly anticipated book [in decades]" (Variety): James Andrew Miller's irresistible insider chronicle of the modern entertainment industry, told through the epic story of Creative Artists Agency (CAA)—the ultimate power player that has represented the world's biggest stars and shaped the landscape of film, television, comedy, music, and sports. Started in 1975, when five bright and brash upstarts left creaky William Morris to form their own innovative talent agency, CAA would come to revolutionize Hollywood, representing everyone from Tom Cruise, Meryl Streep, Robert De Niro, and Steven Spielberg to Jennifer Lawrence, J.J. Abrams, Will Smith, and Brad Pitt. Over the next decades its tentacles would spread aggressively into sports, advertising, and digital media. Powerhouse is the fascinating, no-holds-barred saga of that ascent. Drawing on unprecedented and exclusive access to the men and women who built and battled with CAA—including co-founders Michael Ovitz and Ron Meyer and rivals like Ari Emanuel of William Morris Endeavor—as well as the stars themselves, Miller spins a unique and unforgettable tale of brilliance, ambition, betrayal, and outrageous success.
Social Media Mining - Reza Zafarani 2014-04-28
Integrates social media, social network analysis, and data mining to provide an understanding of the potentials of social media mining.
Sustainable Business Models - Adam Jabłoński 2019-01-25
This book is a printed edition of the Special Issue "Sustainable Business Models" that was published in Sustainability
Ati Teas Review Manual - Ati 2020-08-14
The official TEAS manual written by the creators of the TEAS exam. This study manual directly aligns with the TEAS exam, giving you the preparation you need to achieve the highest score possible. Features: - New! Features full-length practice exam with an expectancy table that helps determine how prepared you are to take the TEAS exam - New! More practice questions with detailed answer explanations at the end of each chapter - Comprehensive end-of-section (Mathematics, Science, English and English language usage) quizzes with detailed answer keys - Updated testing-taking tips and strategies - The TEAS study manual directly aligned with the ATI TEAS exam blueprint The ATI TEAS Manual is designed to work in conjunction with our other TEAS Exam prep products include ATI TEAS SmartPrep and the ATI TEAS Online Practice Assessments.
Adult Critical Care Medicine - Jennifer A. LaRosa 2018-11-08
This clinical casebook provides a comprehensive yet concise state-of-the-art review of adult critical care medicine. Presented in a case-based format, each case focuses on a scenario commonly encountered with an adult patient in the ICU. Case scenarios include management of seizures and acute intracranial

hypertension, sepsis, liver failure, brain death, bleeding and thrombosis, and treating hospital acquired infections in the ICU. Written by experts in the field, Adult Critical Care Medicine: A Clinical Casebook is a valuable resource for critical care specialists and practitioners who treat adult patients in critical care settings.

Computer Vision - Richard Szeliski 2010-09-30
Computer Vision: Algorithms and Applications explores the variety of techniques commonly used to analyze and interpret images. It also describes challenging real-world applications where vision is being successfully used, both for specialized applications such as medical imaging, and for fun, consumer-level tasks such as image editing and stitching, which students can apply to their own personal photos and videos. More than just a source of "recipes," this exceptionally authoritative and comprehensive textbook/reference also takes a scientific approach to basic vision problems, formulating physical models of the imaging process before inverting them to produce descriptions of a scene. These problems are also analyzed using statistical models and solved using rigorous engineering techniques. Topics and features: structured to support active curricula and project-oriented courses, with tips in the Introduction for using the book in a variety of customized courses; presents exercises at the end of each chapter with a heavy emphasis on testing algorithms and containing numerous suggestions for small mid-term projects; provides additional material and more detailed mathematical topics in the Appendices, which cover linear algebra, numerical techniques, and Bayesian estimation theory; suggests additional reading at the end of each chapter, including the latest research in each sub-field, in addition to a full Bibliography at the end of the book; supplies supplementary course material for students at the associated website, http://szeliski.org/Book/. Suitable for an upper-level undergraduate or graduate-level course in computer science or engineering, this textbook focuses on basic techniques that work under real-world conditions and encourages students to push their creative boundaries. Its design and exposition also make it eminently suitable as a unique reference to the fundamental techniques and current research literature in computer vision.

Citizen Science - Susanne Hecker 2018-10-15
Citizen science, the active participation of the public in scientific research projects, is a rapidly expanding field in open science and open innovation. It provides an integrated model of public knowledge production and engagement with science. As a growing worldwide phenomenon, it is invigorated by evolving new technologies that connect people easily and effectively with the scientific community. Catalysed by citizens' wishes to be actively involved in scientific processes, as a result of recent societal trends, it also offers contributions to the rise in tertiary education. In addition, citizen science provides a valuable tool for citizens to play a more active role in sustainable development. This book identifies and explains the role of citizen science within innovation in science and society, and as a vibrant and productive science-policy interface. The scope of this volume is global, geared towards identifying solutions and lessons to be applied across science, practice and policy. The chapters consider the role of citizen science in the context of the wider agenda of open science and open innovation, and discuss progress towards responsible research and innovation, two of the most critical aspects of science today.

I'm Nobody! Who Are You? - Emily Dickinson 2002
A collection of the author's greatest poetry--from the wistful to the unsettling, the wonders of nature to the foibles of human nature--is an ideal introduction for first-time readers. Original.

Entrepreneurship - Bruce R. Barringer 2012-02-27
This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Entrepreneurship: Launching New Ventures introduces readers to the process of entrepreneurial success and shows them how to be effective every step of the way.

Evolution's Rainbow - Joan Roughgarden 2013-09-14
In this innovative celebration of diversity and affirmation of individuality in animals and humans, Joan Roughgarden challenges accepted wisdom about gender identity and sexual orientation. A distinguished evolutionary biologist, Roughgarden takes on the medical establishment, the Bible, social science—and even Darwin himself. She leads the reader through a fascinating discussion of diversity in gender and

sexuality among fish, reptiles, amphibians, birds, and mammals, including primates. Evolution's Rainbow explains how this diversity develops from the action of genes and hormones and how people come to differ from each other in all aspects of body and behavior. Roughgarden reconstructs primary science in light of feminist, gay, and transgender criticism and redefines our understanding of sex, gender, and sexuality. Witty, playful, and daring, this book will revolutionize our understanding of sexuality. Roughgarden argues that principal elements of Darwinian sexual selection theory are false and suggests a new theory that emphasizes social inclusion and control of access to resources and mating opportunity. She disputes a range of scientific and medical concepts, including Wilson's genetic determinism of behavior, evolutionary psychology, the existence of a gay gene, the role of parenting in determining gender identity, and Dawkins's "selfish gene" as the driver of natural selection. She dares social science to respect the agency and rationality of diverse people; shows that many cultures across the world and throughout history accommodate people we label today as lesbian, gay, and transgendered; and calls on the Christian religion to acknowledge the Bible's many passages endorsing diversity in gender and sexuality. Evolution's Rainbow concludes with bold recommendations for improving education in biology, psychology, and medicine; for democratizing genetic engineering and medical practice; and for building a public monument to affirm diversity as one of our nation's defining principles.

Disordered Materials - Stadford R. Ovshinsky 2012-12-06
Landmark contributions to science and mechanisms for the origin of the phenomena, and technology are rarely recognized at the time of reached important conclusions about the physical publication. Few people, even in technical areas, nature of the materials at equilibrium and their recogni zed the importance of developments such as electronic nonequilibrium properties. Many of these the transistor, the laser, or electrophotography ideas were condensed into a publication for Physical until well after their successful demonstration. Review Letters, paper 1 in this collection. This So-called experts, in fact, tend to resist new paper immediately attracted attention to the field, inventions, a natural instinct based on a combina and directly lead to the initiation of large research tion of fear of obsolescent expertise and jealousy efforts at both industrial laboratories and univer- arising from lack of active participation in the ties throughout the world. Inevitably, there was discovery. the usual amount of controversy, with many experts Denigration of new ideas is a relatively simultaneously taking positions (2) and (3) above. safe modus operandi, since the vast majority It has now been well over 20 years since eventually are abandoned well short of commerciality. the original publication date, and an objective view However, a successful device can be identified by can be taken in hindsight.

Synthetic Data for Deep Learning - Sergey I. Nikolenko 2021-06-26
This is the first book on synthetic data for deep learning, and its breadth of coverage may render this book as the default reference on synthetic data for years to come. The book can also serve as an introduction to several other important subfields of machine learning that are seldom touched upon in other books. Machine learning as a discipline would not be possible without the inner workings of optimization at hand. The book includes the necessary sinews of optimization though the crux of the discussion centers on the increasingly popular tool for training deep learning models, namely synthetic data. It is expected that the field of synthetic data will undergo exponential growth in the near future. This book serves as a comprehensive survey of the field. In the simplest case, synthetic data refers to computer-generated graphics used to train computer vision models. There are many more facets of synthetic data to consider. In the section on basic computer vision, the book discusses fundamental computer vision problems, both low-level (e.g., optical flow estimation) and high-level (e.g., object detection and semantic segmentation), synthetic environments and datasets for outdoor and urban scenes (autonomous driving), indoor scenes (indoor navigation), aerial navigation, and simulation environments for robotics. Additionally, it touches upon applications of synthetic data outside computer vision (in neural programming, bioinformatics, NLP, and more). It also surveys the work on improving synthetic data development and alternative ways to produce it such as GANs. The book introduces and reviews several different approaches to synthetic data in various domains of machine learning, most notably the following fields: domain adaptation for making synthetic data more realistic and/or adapting the models to be trained on synthetic data and differential privacy for generating synthetic data with privacy guarantees. This discussion is accompanied by an

introduction into generative adversarial networks (GAN) and an introduction to differential privacy.

Decision Making Under Uncertainty - Mykel J. Kochenderfer 2015-07-24
An introduction to decision making under uncertainty from a computational perspective, covering both theory and applications ranging from speech recognition to airborne collision avoidance. Many important problems involve decision making under uncertainty—that is, choosing actions based on often imperfect observations, with unknown outcomes. Designers of automated decision support systems must take into account the various sources of uncertainty while balancing the multiple objectives of the system. This book provides an introduction to the challenges of decision making under uncertainty from a computational perspective. It presents both the theory behind decision making models and algorithms and a collection of example applications that range from speech recognition to aircraft collision avoidance. Focusing on two methods for designing decision agents, planning and reinforcement learning, the book covers probabilistic models, introducing Bayesian networks as a graphical model that captures probabilistic relationships between variables; utility theory as a framework for understanding optimal decision making under uncertainty; Markov decision processes as a method for modeling sequential problems; model uncertainty; state uncertainty; and cooperative decision making involving multiple interacting agents. A series of applications shows how the theoretical concepts can be applied to systems for attribute-based person search, speech applications, collision avoidance, and unmanned aircraft persistent surveillance. Decision Making Under Uncertainty unifies research from different communities using consistent notation, and is accessible to students and researchers across engineering disciplines who have some prior exposure to probability theory and calculus. It can be used as a text for advanced undergraduate and graduate students in fields including computer science, aerospace and electrical engineering, and management science. It will also be a valuable professional reference for researchers in a variety of disciplines.