A Collection of 10 free 'Springer' Books on the Topics of AI, Ethics, Machine Learning, Robotics, Cybersecurity, Philosophy, Science & Innovation

Robotics, AI, and Humanity Science
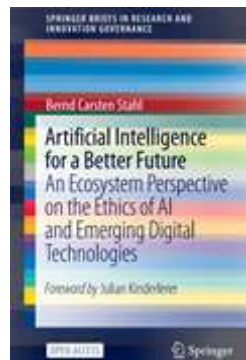

source [Springer](#)

Very informative: Robotics, AI, and Humanity Science-Ethics, and Policy

This open access book examines recent advances in how artificial intelligence (AI) and robotics have elicited widespread debate over their benefits and drawbacks for humanity. The emergent technologies have for instance implications within medicine and health care, employment, transport, manufacturing, agriculture, and armed conflict. While there has been considerable attention devoted to robotics/AI applications in each of these domains, a fuller picture of their connections and the possible consequences for our shared humanity seems needed. This volume covers multidisciplinary research, examines current research frontiers in AI/robotics and likely impacts on societal well-being, human–robot relationships, as well as the opportunities and risks for sustainable development and peace. The attendant ethical and religious dimensions of these technologies are addressed and implications for regulatory policies on the use and future development of AI/robotics technologies are elaborated.

Editors: Joachim von Braun · Margaret S. Archer Gregory M. Reichberg · Marcelo Sánchez Sorondo

Download (pdf): Robotics, AI, and Humanity Science

Artificial Intelligence for a Better Future - An Ecosystem Perspective on the Ethics of AI and Emerging Digital Technologies

source Springer

Highly recommended: Artificial Intelligence for a Better Future -An Ecosystem Perspective on the Ethics of AI and Emerging Digital Technologies
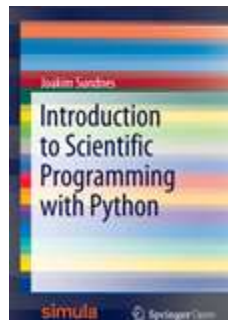
by Bernd Carsten Stahl

This book presents an innovative answer to the question by presenting a different perspective on AI and its ethical consequences. Instead of looking at individual AI techniques, applications or ethical issues, we can understand AI as a system of ecosystems, consisting of numerous interdependent technologies, applications and

stakeholders. Developing this idea, the book explores how AI ecosystems can be shaped to foster human flourishing. Drawing on rich empirical insights and detailed conceptual analysis, it suggests practical measures to ensure that AI is used to make the world a better place.

Download (pdf): Artificial Intelligence for a Better Future

Introduction to Scientific Programming with Python

source Springer

It is a great advantage if you can also do some coding as a scientist.

This book was originally written as a set of lecture notes to the book A Primer on Scientific Programming with Python by Hans Petter Langtangen1, and can be used either as a supplement to that book or on its own, as a compact introduction to scientific programming. Langtangen's book and these lecture notes, have formed the core of an introductory course on scientific programming at the University of Oslo (INF1100/IN1900, 10 ETCS credits).

Download (pdf): Introduction to Scientific Programming with Python

On the path to AI-Law's prophecies and the conceptual foundations of the machine learning age
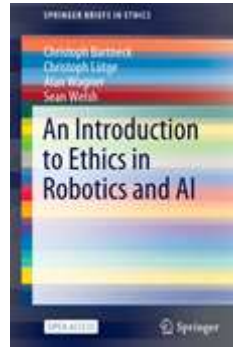

source Springer

by Thomas D. Grant and Damon J. Wischik

"Finding an analogy in the legal philosophy of Oliver Wendell Holmes Jr., the authors provide a penetrating and fine-grained examination of artificial intelligence, a rich and forward-looking approach that should restrain exaggerated claims and guide a realistic assessment of AI's prospects." ~ Frederic R. Kellogg, author of Oliver Wendell Holmes Jr. and Legal Logic

Download (pdf): On the path to AI-Law's prophecies and the conceptual foundations of the machine learning age
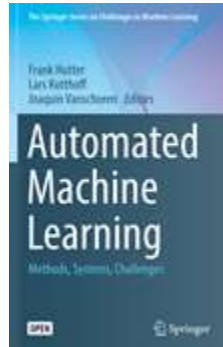
An Introduction to Ethics in Robotics and AI

source Springer

by Christoph Lütge , Christoph Bartneck , Alan Wagner and Sean Welsh

"This book provides an introduction into the ethics of robots and artificial intelligence. The book was written with university students, policy makers, and professionals in mind but should be accessible for most adults. The book is meant to provide balanced and, at times, conflicting viewpoints as to the benefits and deficits of AI through the lens of ethics. As discussed in the chapters that follow, ethical questions are often not cut and dry. Nations, communities, and individuals may have unique and important perspectives on these topics that should be heard and considered. While the voices that compose this book are our own, we have attempted to represent the views of the broader AI, robotics, and ethics communities."

Download (pdf): An Introduction to Ethics in Robotics and AI
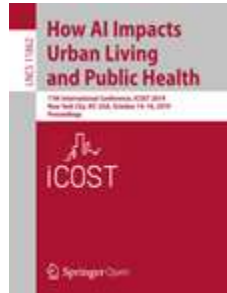
Automated Machine Learning Methods, Systems, Challenges

source Springer

by Frank Hutter • Lars Kotthoff • Joaquin Vanschoren

"I'd like to use machine learning, but I can't invest much time." That is something you hear all too often in industry and from researchers in other disciplines. The resulting demand for hands-free solutions to machine learning has recently given rise to the field of automated machine learning (AutoML), and I'm delighted that with this book, there is now the first comprehensive guide to this field."

Download (pdf): Automated Machine Learning Methods, Systems, Challenges

How AI Impacts Urban Living and Public Health

source Springer

José Pagán · Mounir Mokhtari · Hamdi Aloulou · Bessam Abdulrazak · María Fernanda Cabrera (Eds.)

Conetents:

- E-health Technology Design

- Well-being Technology

- Biomedical and Health Informatics

- Smart Environment Technology

- Short Contributions

Download (pdf): How AI Impacts Urban Living and Public Health

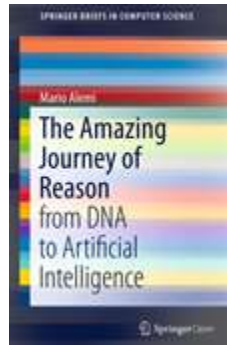# Responsible Innovation -Business Opportunities and Strategies for Implementation

source Springer

by Katharina Jarmai

"The concept of Responsible Research and Innovation (RRI) originates in discourses on emerging technologies and research ethics in contested innovative fields, such as nanotechnologies or geo-engineering, and has been predominantly driven by European research and innovation policy over the past 10 years. The concept was initially developed and introduced by policy makers and social scientists, but recent studies have aimed to shed light on the implementation of responsible research and innovation practices in business. The contributions collected in this book are a result of work conducted by seven partner organisations in the European funded Horizon 2020 project "COMPASS — Evidence and opportunities for responsible innovation in SMEs".

Download (pdf): Responsible Innovation -Business Opportunities and Strategies for Implementation

The Amazing Journey of Reason

source Springer

by Mario Alemi

The Amazing Journey analyzes the latest results in chemistry, biology, neuroscience, anthropology and sociology under the light of the evolution of intelligence, seen as the ability of processing information.
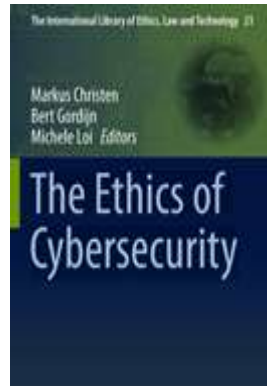
The main strength of this book is using just two concepts used in physics –information and energy– to explain:
The emergence and evolution of life: procaryotes, eukaryotes and complex organisms

- The emergence and evolution of the brain

- The emergence and evolution of societies (human and not)

- Possible evolution of our "internet society" and the role that Artificial Intelligence is playing

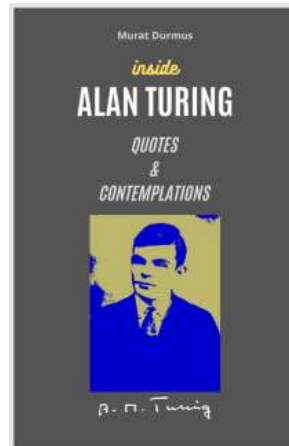Download (pdf): The Amazing Journey of Reason

The Ethics of Cybersecurity

source Springer

Editors: Markus Christen, Bert Gordijn, Michele Loi

"This introduction provides a short overview on the book "The Ethics of Cybersecurity". The volume explains the foundations of cybersecurity, ethics and law, outlines various problems of the domain such as ethical hacking and cyberwar, and it lists recommendations and best practices for cybersecurity professionals working in various application areas. Furthermore, the introduction outlines the background of the European CANVAS project, from which this volume emerged."

Download (pdf): The Ethics of Cybersecurity

INSIDE ALAN TURING: QUOTES AND CONTEMPLATIONS

[INSIDE ALAN TURING](#) (Paperback)

Alan Turing is generally considered the father of computer science and artificial intelligence. He was also a theoretical biologist who developed algorithms to explain complex patterns using simple inputs and random fluctuation as a side hobby. Unfortunately, his life tragically ended in suicide in 1954, after he was chemically castrated as punishment (instead of prison) for 'criminal' gay acts.

Download (pdf): INSIDE ALAN TURING: QUOTES AND CONTEMPLATIONS

Murat Durmus

(Author of the Book: "*THE AI THOUGHT BOOK*")