

Machine Learners Archaeology Of A Data Practice

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Cognitive Code Johannes Bruder 2020-01-16 As the second decade of the twenty-first century draws to a close, the cultural, social, and economic effects of artificial intelligence are becoming ever more apparent. Despite their long-intertwined histories, the fields of neuroscience and artificial intelligence research are notoriously divided. In *Cognitive Code* Johannes Bruder argues that seemingly incompatible scales of intelligence – the brain and the planet – are now intimately linked through neuroscience-inspired AI and computational cognitive neuroscience. Building on ethnographic fieldwork in brain imaging labs in the United Kingdom and Switzerland, alongside analyses of historical and contemporary literature, *Cognitive Code* examines how contemporary research on the brain makes routine use of engineering epistemologies and practices. Bruder elaborates on how the question of mimicking human cognition and thought on the scale of computer chips and circuits has gradually evolved into a comprehensive restructuring of the world through "smart" infrastructures. The brain, traditionally treated as a discrete object that thinks, is becoming part of the larger thinking network we now know as "the Cloud." The author traces a recent shift in the goals of brain imaging to show that the introduction of novel statistical and computational techniques has upset traditional paradigms and disentangled cognition from its biological substrate. Investigating understandings of intelligence from the micro to the macro, *Cognitive Code* explains how the future of human psychology is increasingly determined by engineering and design.

Digital Culture & Society (DCS) Ramón Reichert 2018-08-31 *Digital Culture & Society* is a refereed, international journal, fostering discussion about the ways in which digital technologies, platforms and applications reconfigure daily lives and practices. It offers a forum for inquiries into digital media theory, methodologies, and socio-technological developments. This issue shows: The meaning of AI has undergone drastic changes during the last 60 years of AI discourse(s). What we talk about when saying AI is not what it meant in 1958, when John McCarthy, Marvin Minsky and their colleagues started using the term. Biological information processing is now firmly embedded in commercial applications like the intelligent personal Google Assistant, Facebook's facial recognition algorithm, Deep Face, Amazon's device Alexa or Apple's software feature Siri to mention just a few.

Discriminating Data Wendy Hui Kyong Chun 2021-11-02 How big data and machine learning encode discrimination and create agitated clusters of comforting rage. In *Discriminating Data*, Wendy Hui Kyong Chun reveals how polarization is a goal—not an error—within big data and machine learning. These methods, she argues, encode segregation, eugenics, and identity politics through their default assumptions and conditions. Correlation, which grounds big data's predictive potential, stems from twentieth-century eugenic attempts to "breed" a better future. Recommender systems foster angry clusters of sameness through homophily. Users are "trained" to become authentically predictable via a politics and technology of recognition. Machine learning and data analytics thus seek to disrupt the future by making disruption impossible. Chun, who has a background in systems design engineering as well as media studies and cultural theory, explains that although machine learning algorithms may not officially include race as a category, they embed whiteness as a default. Facial recognition technology, for example, relies on the faces of Hollywood celebrities and university undergraduates—groups not famous for their diversity. Homophily emerged as a concept to describe white U.S. resident attitudes to living in biracial yet segregated public housing. Predictive policing technology deploys models trained on studies of predominantly underserved neighborhoods. Trained on selected and often discriminatory or dirty data, these algorithms are only validated if they mirror this data. How can we release ourselves from the vice-like grip of discriminatory data? Chun calls for alternative algorithms, defaults, and interdisciplinary coalitions in order to desegregate networks and foster a more democratic big data.

Controversy Mapping Tommaso Venturini 2021-12-01 As disputes concerning the environment, the economy, and pandemics occupy public debate, we need to learn to navigate matters of public concern when facts are in doubt and expertise is contested. *Controversy Mapping* is the first book to introduce readers to the observation and representation of contested issues on digital media. Drawing on actor-network theory and digital methods, Venturini and Munk outline the conceptual underpinnings and the many tools and techniques of controversy mapping. They review its history in science and technology studies, discuss its methodological potential, and unfold its political implications. Through a range of cases and examples, they demonstrate how to chart actors and issues using digital fieldwork and computational techniques. A preface by Richard Rogers and an interview with Bruno Latour are also included. A crucial field guide and hands-on companion for the digital age, *Controversy Mapping* is an indispensable resource for students and scholars of media and communication, as well as activists, journalists, citizens, and decision makers.

Artificial Intelligence and Human Enhancement Herta Nagl-Docekal 2022-04-04 Seit 2014 erscheinen die Bände der renommierten Wiener Reihe bei De Gruyter. Das äußere Layout der Bände wurde modernisiert, inhaltlich und personell jedoch ist das Profil der seit mehr als zwei Jahrzehnten erscheinenden Buchreihe von Kontinuität geprägt. Die Bände sind jeweils einer aktuellen philosophischen Fragestellung gewidmet. Eine internationale Autorenschaft und die Veröffentlichung fremdsprachiger Beiträge sind Elemente des Programms. Die Reihe will dazu beitragen, dogmatische Abgrenzungen zwischen philosophischen Schulen und Traditionen abzubauen.

Social Data Science Xenmials Gian Marco Campagnolo 2020-11-30 This book explores the tension between analogue and digital as part of an evolving research programme and focuses on the sequencing of methods within it. The book will be an invaluable reference for scholars who routinely engage in critical sociological analysis of the digital workplace and find it easier to treat the digital as an object of study. It describes how the transformations taking place in the 10-year arc of a career spent doing fieldwork in the IT sector led the author to progressively embrace new forms of data and methods. In a time where sociological imagination takes the shape of whatever new phenomenon can be studied by transactional data and machine learning methods, it is a reminder that longstanding engagement with a particular field of practice is the basis of empirical social science expertise. This short book by Gian Marco Campagnolo is remarkably wide-ranging. It draws on theoretical perspectives as varied as Harold Garfinkel's ethnomethodology and Andrew Abbott's 'linked ecologies' to discuss topics as diverse as the adoption of packaged enterprise software in the public sector in Italy and the careers of often influential industry analysts. Campagnolo's methods are primarily qualitative and ethnographic, but he shows a proper appreciation for quantitative methods such as text mining and sequence analysis. The book ends with a discussion of the famously difficult issue of achieving 'explainability' in machine learning. Campagnolo tantalisingly suggests the usefulness here of how ethnomethodologists view 'accountability': as a practical accomplishment that is hampered, rather than fostered, by efforts to give full explanations.' —Donald MacKenzie, Professor of Sociology, Edinburgh University, Scotland 'The author adopts a 'processual' perspective on social data science as means of exploring and reflecting on the emergence of an academic career within this new domain of interdisciplinary inquiry. This is certainly a novel and interesting approach given the fact that 'data science' is work in progress and is characterized by a number of competing occupational groups that are struggling to define this emerging field.' —William Housley, Professor, University of Cardiff, UK 'Having myself written about the relationships between ethnography and computer science, I see this book as a timely contribution in that it extends the existing debate to data science. Data science is an emerging discipline that is gaining central stage in industry and in the public discourse. The aim of this book to indicate the importance of interdisciplinarity in this field is commendable.' —Giolo Fele, Professor, University of Trento, Italy 'This book provides two entwined accounts: a reflective personal journey across different projects and methods and a grounded, genealogically sound analysis of the approaches and contributions of social science to understanding the digital society. These dual accounts are adroitly communicated. Their bold combination yields a unique and invaluable contribution to fundamental discussions in the social sciences, as well as an exemplar for how to combine ethnographic and data-driven analysis in a theoretically and epistemologically informed manner. With this book, Campagnolo brings us close to the methods and opens up an inspiring and challenging agenda for combining old and new forms of inquiry into sociological problems.' —Anne Beaulieu, Director Data Research Centre, University of Groningen, Netherlands

Technology and the City Michael Nagenborg 2021-01-25 The contributions in this volume map out how technologies are used and designed to plan, maintain, govern, demolish, and destroy the city. The chapters demonstrate how urban technologies shape, and are shaped, by fundamental concepts and principles such as citizenship, publicness, democracy, and nature. The many authors herein explore how to think of technologically mediated urban space as part of the human condition. The volume will thus contribute to the much-needed discussion on technology-enabled urban futures from the perspective of the philosophy of technology. This perspective also contributes to the discussion and process of making cities 'smart' and just. This collection appeals to students, researchers, and professionals within the fields of philosophy of technology, urban planning, and engineering.

The Ends of Critique Kathrin Thiele 2021 Re-examining the stakes of critique in the twenty-first century, this book contends with the complex socio-political realities of a globalized world and the changing role that critique and the academy have to play.

Engines of Order Bernhard Rieder 2020-05-15 Software has become a key component of contemporary life and algorithmic techniques that rank, classify, or recommend anything that fits into digital form are everywhere. This book approaches the field of information ordering conceptually as well as historically. Building on the philosophy of Gilbert Simondon and the cultural techniques tradition, it first examines the constructive and cumulative character of software and shows how software-making constantly draws on large reservoirs of existing knowledge and techniques. It then reconstructs the historical trajectories of a series of algorithmic techniques that have indeed become the building blocks for contemporary practices of ordering. Developed in opposition to centuries of library tradition, coordinate indexing, text processing, machine learning, and network algorithms instantiate dynamic, perspectivist, and interested forms of arranging information, ideas, or people. Embedded in technical infrastructures and economic logics, these techniques have become engines of order that transform the spaces they act upon.

Digital Anthropology Haidy Geismar 2021-05-27 *Digital Anthropology*, 2nd Edition explores how human and digital can be explored in relation to one another within issues as diverse as social media use, virtual worlds, hacking, quantified self, blockchain, digital environmentalism and digital representation. The book challenges the prevailing moral universal of "the digital age" by exploring emergent anxieties about the global spread of new technological forms, the cultural qualities of digital experience, critically examining the intersection of the digital to new concepts and practices across a wide range of fields from design to politics. In this fully revised edition, *Digital Anthropology* reveals how the intense scrutiny of ethnography can overturn assumptions about the impact of digital culture and reveal its profound consequences for everyday life around the world. Combining case studies with theoretical discussion in an engaging style that conveys a passion for new frontiers of enquiry within anthropological study, this will be essential reading for students and scholars interested in theory of anthropology, media and information studies, communication studies and sociology. With a brand-new Introduction from editors Haidy Geismar and Hannah Knox, as well as an abridged version of the original Introduction by Heather Horst and Daniel Miller, in conjunction with new chapters on hacking and digitizing environments, amongst others, and fully revised chapters throughout, this will bring the field-defining overview of digital anthropology fully up to date.

The Routledge Companion to Actor-Network Theory Anders Blok 2019-06-17 This companion explores ANT as an intellectual practice, tracking its movements and engagements with a wide range of other academic and activist projects. Showcasing the work of a diverse set of 'second generation' ANT scholars from around the world, it highlights the exciting depth and breadth of contemporary ANT and its future possibilities. The companion has 38 chapters, each answering a key question about ANT and its capacities. Early chapters explore ANT as an intellectual practice and highlight ANT's dialogues with other fields and key theorists. Others open critical, provocative discussions of its limitations. Later sections explore how ANT has been developed in a range of social scientific fields and how it has been used to explore a wide range of scales and sites. Chapters in the final section discuss ANT's involvement in 'real world' endeavours such as disability and environmental activism, and even running a Chilean hospital. Each chapter contains an overview of relevant work and introduces original examples and ideas from the authors' recent research. The chapters orient readers in rich, complex fields and can be read in any order or combination. Throughout the volume, authors mobilise ANT to explore and account for a range of exciting case studies: from wheelchair activism to parliamentary decision-making; from racial profiling to energy consumption monitoring; from queer sex to Korean cities. A comprehensive introduction by the editors explores the significance of ANT more broadly and provides an overview of the volume. The Routledge Companion to Actor-Network Theory will be an inspiring and lively companion to academics and advanced undergraduates and postgraduates from across many disciplines across the social sciences, including Sociology, Geography, Politics and Urban Studies, Environmental Studies and STS, and anyone wishing to engage with ANT, to understand what it has already been used to do and to imagine what it might do in the future.

Cultural Economies of Locative Media Rowan Wilken 2019 Location, location-awareness, and location data have all become familiar and increasingly significant parts of our everyday mobile-mediated experiences. *Cultural Economies of Locative Media* examines the ways in which location-based services, such as GPS-enabled mobile smartphones, are socially, culturally, economically, and politically produced just as much as they are technically designed and manufactured. Rowan Wilken explores the complex interrelationships that mutually define new business models and the economic factors that emerge around, and structure, locative media services. Further, he offers readers insight into the diverse social uses, cultures of consumption, and policy implications of location, providing a detailed, critical account of contemporary location-sensitive mobile data. *Cultural Economies of Locative Media* delves into the ideas, technologies, contexts, and power relationships that define this scholarship, resulting in a rich portrait of locative media in all of its cultural and economic complexity.

Problem Spaces Celia Lury 2020-11-10 In this innovative book, Celia Lury argues that the time has come for us to explore the world not only with new methods, but with a new approach to methodology itself. Fundamental changes are taking place in how we produce knowledge, how we communicate it and, indeed, what we consider to be knowledge. These changes demand innovative and creative responses to research questions. Lury's rethinking of the nature of social inquiry starts by reconceptualizing the 'problem space'. Problems are not static or a 'given'; rather, they are created and continually recomposed as part of the methodological process itself. Following the line of thought that methods are practices that articulate as much as capture a social problem, Lury further develops the notion of compositional methodology to think through its implications. With remarkable fluency, the book draws into conversation a range of hot-button issues, both longstanding and novel, from observation, reflexivity, recursive measurement and feminist methodologies, to participation, context, datafication and platformization. Always with an eye to the methodological potential of new trends, the book provides a strong challenge to much received wisdom and argues that a combination of techniques can contribute to better understanding of the problem spaces we all inhabit.

Data Publics Peter Mörtenböck 2020-05-31 Data has emerged as a key component that determines how interactions across the world are structured, mediated and represented. This book examines these new data publics and the areas in which they become operative, via analysis of politics, geographies, environments and social media platforms. By claiming to offer a mechanism to translate every conceivable occurrence into an abstract code that can be endlessly manipulated, digitally processed data has caused conventional reference systems which hinge on our ability to mark points of origin, to rapidly implode. Authors from a range of disciplines provide insights into such a political economy of data capitalism; the political possibilities of techno-logics beyond data appropriation and data refusal; questions of visual, spatial and geographical organization; emergent ways of life and the environments that sustain them; and the current challenges of data publics, which is explored via case studies of three of the most influential platforms in the social media economy today: Facebook, Instagram and Whatsapp. Data Publics will be of great interest to academics and students in the fields of computer science, philosophy, sociology, media and communication studies, architecture, visual culture, art and design, and urban and cultural studies.

Transforming Digital Worlds Gobinda Chowdhury 2018-03-17 This book constitutes the proceedings of the 13th International Conference on Transforming Digital Worlds, iConference 2018, held in Sheffield, UK, in March 2018. The 42 full papers and 40 short papers presented together with the abstracts of 3 invited talks in this volume were carefully reviewed and selected from 219 submissions. The papers address topics such as social media; communication studies and online communities; mobile information and cloud computing; data mining and data analytics; information retrieval; information behaviour and digital literacy; digital curation; and information education and libraries.

Data Politics Didier Bigo 2019-03-13 Data has become a social and political issue because of its capacity to reconfigure relationships between states, subjects, and citizens. This book explores how data has acquired such an important capacity and examines how critical interventions in its uses in both theory and practice are possible. Data and politics are now inseparable: data is not only shaping our social relations, preferences and life chances but our very democracies. Expert international contributors consider political questions about data and the ways it provokes subjects to govern themselves by making rights claims. Concerned with the things (infrastructures of servers, devices, and cables) and language (code, programming, and algorithms) that make up cyberspace, this book demonstrates that without understanding these conditions of possibility it is impossible to intervene in or to shape data

politics. Aimed at academics and postgraduate students interested in political aspects of data, this volume will also be of interest to experts in the fields of internet studies, international studies, Big Data, digital social sciences and humanities.

Algorithms and Subjectivity Eran Fisher 2021-01-27 In this thought-provoking volume, Eran Fisher interrogates the relationship between algorithms as epistemic devices and modern notions of subjectivity. Over the past few decades, as the instrumentalization of algorithms has created knowledge that informs our decisions, preferences, tastes, and actions, and the very sense of who we are, they have also undercut, and arguably undermined, the Enlightenment-era ideal of the subject. Fisher finds that as algorithms enable a reality in which knowledge is created by circumventing the participation of the self, they also challenge contemporary notions of subjectivity. Through four case-studies, this book provides an empirical and theoretical investigation of this transformation, analyzing how algorithmic knowledge differs from the ideas of critical knowledge which emerged during modernity - Fisher argues that algorithms create a new type of knowledge, which in turn changes our fundamental sense of self and our concept of subjectivity. This book will make a timely contribution to the social study of algorithms and will prove especially valuable for scholars working at the intersections of media and communication studies, internet studies, information studies, the sociology of technology, the philosophy of technology, and science and technology studies.

The Democratization of Artificial Intelligence Andreas Sudmann 2019-10-31 After a long time of neglect, Artificial Intelligence is once again at the center of most of our political, economic, and socio-cultural debates. Recent advances in the field of Artificial Neural Networks have led to a renaissance of dystopian and utopian speculations on an AI-rendered future. Algorithmic technologies are deployed for identifying potential terrorists through vast surveillance networks, for producing sentencing guidelines and recidivism risk profiles in criminal justice systems, for demographic and psychographic targeting of bodies for advertising or propaganda, and more generally for automating the analysis of language, text, and images. Against this background, the aim of this book is to discuss the heterogeneous conditions, implications, and effects of modern AI and Internet technologies in terms of their political dimension: What does it mean to critically investigate efforts of net politics in the age of machine learning algorithms?

Algorithmic Reason Claudia Aradau 2022-04-25 This is an open access title available under the terms of a CC BY-NC-ND 4.0 International licence. It is free to read at Oxford Scholarship Online and offered as a free PDF download from OUP and selected open access locations. Are algorithms ruling the world today? Is artificial intelligence making life-and-death decisions? Are social media companies able to manipulate elections? As we are confronted with public and academic anxieties about unprecedented changes, this book offers a different analytical prism through which these transformations can be explored. Claudia Aradau and Tobias Blanke develop conceptual and methodological tools to understand how algorithmic operations shape the government of self and other. They explore the emergence of algorithmic reason through rationalities, materializations, and interventions, and trace how algorithmic rationalities of decomposition, recomposition, and partitioning are materialized in the construction of dangerous others, the power of platforms, and the production of economic value. The book provides a global transdisciplinary perspective on algorithmic operations, drawing on qualitative and digital methods to investigate controversies ranging from mass surveillance and the Cambridge Analytica scandal in the UK to predictive policing in the US, and from the use of facial recognition in China and drone targeting in Pakistan to the regulation of hate speech in Germany.

Technologies in Being Wolfgang Ernst 2021-05-06 Wolfgang Ernst's new work, *Technologies in Being*, in its explicit media-scientific approach, aligns with the politics of the thinking media series to publish innovative works that advance media studies towards the 'new sciences.' Ernst's invites readers to re-adjust their ideas of Media Studies: the conviction that an extended understanding of "medium" needs to include a concept of materiality that focuses on "non-human" agencies as well. The book grounds media analysis radically in the technological apparatuses, relays, transistors, hard- and software, to precisely locate the scenes, operations and frictions where reasoning logos and 'informable' matter interfere.

Thinking the Problematic Oliver Leistert 2020-10-31 The notion of »the problematic« has changed its meaning within the history of power and knowledge since the early 20th century, leading up to today's performative, neocybernetic fascination with generalized management ideas and technocratic models of science. This book explores central scenes, conceptual elaborations, and practical affiliations of what historically has been called »the problem« or »the problematic«. By way of considering modes of problematization as modes of inhabitation, intervention, and transformation the contributions map its current conceptual-political uses as well as onto-epistemological challenges. Thus, »problematization« is positioned as a critical concept that links, often in intricate ways, several currents from speculative philosophy to the formation of interdisciplinary fields. The »problematic«, as it turns out, has been the source of change in philosophy and the sciences all along.

The Networked Image in Post-Digital Culture Andrew Dewdney 2022-07-12 This collection examines how the networked image establishes new social practices for the user and presents new challenges for cultural practitioners engaged in making, curating, teaching, exhibiting, archiving and preserving born-digital objects. The mode of vision and imaging, established through photography over the previous two centuries, has and continues to be radically reconfigured by a hybrid of algorithms, computing, programmed capture and display devices, and an array of online platforms. The image under these new conditions is filtered, fluid, fleeting, permeable, mobile and distributed and is changing our ways of seeing. The chapters in this volume are the outcome of research conducted at the Centre for the Study of the Networked Image (CSNI) and its collaboration with The Photographers' Gallery over the last ten years. The book's contributors investigate radical changes in the meanings and values of hybridised media in socio-technical networks and speak to the creeping automation of culture through applications of AI, social media platforms and the financialisation of data. This interdisciplinary collection draws upon media and cultural studies, art history, art practice, photographic theory, user design, animation, museology and computer science as a way of making sense of the specific cultural consequences of the rapid succession of changes in image technologies and to bring the story up to date. It will be of particular interest to scholars and students of visual culture, media studies and photography.

The Constitution of Algorithms Florian Jatón 2021-04-27 A laboratory study that investigates how algorithms come into existence. Algorithms—often associated with the terms big data, machine learning, or artificial intelligence—underlie the technologies we use every day, and disputes over the consequences, actual or potential, of new algorithms arise regularly. In this book, Florian Jatón offers a new way to study computerized methods, providing an account of where algorithms come from and how they are constituted, investigating the practical activities by which algorithms are progressively assembled rather than what they may suggest or require once they are assembled.

Machine Learners Adrian Mackenzie 2017-11-16 If machine learning transforms the nature of knowledge, does it also transform the practice of critical thought? Machine learning—programming computers to learn from data—has spread across scientific disciplines, media, entertainment, and government. Medical research, autonomous vehicles, credit transaction processing, computer gaming, recommendation systems, finance, surveillance, and robotics use machine learning. Machine learning devices (sometimes understood as scientific models, sometimes as operational algorithms) anchor the field of data science. They have also become mundane mechanisms deeply embedded in a variety of systems and gadgets. In contexts from the everyday to the esoteric, machine learning is said to transform the nature of knowledge. In this book, Adrian Mackenzie investigates whether machine learning also transforms the practice of critical thinking. Mackenzie focuses on machine learners—either humans and machines or human-machine relations—situated among settings, data, and devices. The settings range from fMRI to Facebook; the data anything from cat images to DNA sequences; the devices include neural networks, support vector machines, and decision trees. He examines specific learning algorithms—writing code and writing about code—and develops an archaeology of operations that, following Foucault, views machine learning as a form of knowledge production and a strategy of power. Exploring layers of abstraction, data infrastructures, coding practices, diagrams, mathematical formalisms, and the social organization of machine learning, Mackenzie traces the mostly invisible architecture of one of the central zones of contemporary technological cultures. Mackenzie's account of machine learning locates places in which a sense of agency can take root. His archaeology of the operational formation of machine learning does not unearth the footprint of a strategic monolith but reveals the local tributaries of force that feed into the generalization and plurality of the field.

Cloud Ethics Louise Amoore 2020-05-01 In *Cloud Ethics* Louise Amoore examines how machine learning algorithms are transforming the ethics and politics of contemporary society. Conceptualizing algorithms as ethico-political entities that are entangled with the data attributes of people, Amoore outlines how algorithms give incomplete accounts of themselves, learn through relationships with human practices, and exist in the world in ways that exceed their source code. In these ways, algorithms and their relations to people cannot be understood by simply examining their code, nor can ethics be encoded into algorithms. Instead, Amoore locates the ethical responsibility of algorithms in the conditions of partiality and opacity that haunt both human and algorithmic decisions. To this end, she proposes what she calls cloud ethics—an approach to holding algorithms accountable by engaging with the social and technical conditions under which they emerge and operate.

Investigative Aesthetics Matthew Fuller 2021-08-24 A new field of counterinvestigation across in human rights, art and law Today, artists are engaged in investigation. They probe corruption, human rights violations, environmental crimes and technological domination. At the same time, areas not usually thought of as artistic make powerful use of aesthetics. Journalists and legal professionals pore over openource videos and satellite imagery to undertake visual investigations. This combination of diverse fields is what the authors call "investigative aesthetics": the mobilisation of sensibilities associated with art, architecture and other such practices in order to speak truth to power. Investigative Aesthetics draws on theories of knowledge, ecology and technology; evaluates the methods of citizen counter-forensics, micro-history and art; and examines radical practices such as those of WikiLeaks, Bellingcat, and Forensic Architecture. These new practices take place in the studio and the laboratory, the courtroom and the gallery, online and in the streets, as they strive towards the construction of a new common sense. Matthew Fuller and Eyal Weizman have here provided an inspiring introduction to a new field that will change how we understand and confront power today.

A City Is Not a Computer Shannon Mattern 2021-08-10 A bold reassessment of "smart cities" that reveals what is lost when we conceive of our urban spaces as computers Computational models of urbanism—smart cities that use data-driven planning and algorithmic administration—promise to deliver new urban efficiencies and conveniences. Yet these models limit our understanding of what we can know about a city. *A City Is Not a Computer* reveals how cities encompass myriad forms of local and indigenous intelligences and knowledge institutions, arguing that these resources are a vital supplement and corrective to increasingly prevalent algorithmic models. Shannon Mattern begins by examining the ethical and ontological implications of urban technologies and computational models, discussing how they shape and in many cases profoundly limit our engagement with cities. She looks at the methods and underlying assumptions of data-driven urbanism, and demonstrates how the "city-as-computer" metaphor, which undergirds much of today's urban policy and design, reduces place-based knowledge to information processing. Mattern then imagines how we might sustain institutions and infrastructures that constitute more diverse, open, inclusive urban forms. She shows how the public library functions as a steward of urban intelligence, and describes the scales of upkeep needed to sustain a city's many moving parts, from spinning hard drives to bridge repairs. Incorporating insights from urban studies, data science, and media and information studies, *A City Is Not a Computer* offers a visionary new approach to urban planning and design.

The Cultural Life of Machine Learning Jonathan Roberge 2020-11-30 This book brings together the work of historians and sociologists with perspectives from media studies, communication studies, cultural studies, and information studies to address the origins, practices, and possible futures of contemporary machine learning. From its foundations in 1950s and 1960s pattern recognition and neural network research to the modern-day social and technological dramas of DeepMind's AlphaGo, predictive political forecasting, and the governmentality of extractive logistics, machine learning has become controversial precisely because of its increased embeddedness and agency in our everyday lives. How can we disentangle the history of machine learning from conventional histories of artificial intelligence? How can machinic agents' capacity for novelty be theorized? Can reform initiatives for fairness and equity in AI and machine learning be realized, or are they doomed to cooptation and failure? And just what kind of "learning" does machine learning truly represent? We empirically address these questions and more to provide a baseline for future research. Chapter 2 is available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

Automation and Autonomy James Steinhoff 2021-06-21 This book argues that Marxist theory is essential for understanding the contemporary industrialization of the form of artificial intelligence (AI) called machine learning. It includes a political economic history of AI, tracking how it went from a fringe research interest for a handful of scientists in the 1950s to a centerpiece of cybernetic capital fifty years later. It also includes a political economic study of the scale, scope and dynamics of the contemporary AI industry as well as a labour process analysis of commercial machine learning software production, based on interviews with workers and management in AI companies around the world, ranging from tiny startups to giant technology firms. On the basis of this study, Steinhoff develops a Marxist analysis to argue that the popular theory of immaterial labour, which holds that information technologies increase the autonomy of workers from capital, tending towards a post-capitalist economy, does not adequately describe the situation of high-tech digital labour today. In the AI industry, digital labour remains firmly under the control of capital. Steinhoff argues that theories discerning therein an emergent autonomy of labour are in fact witnessing labourer's increasing automation.

Big Data—A New Medium? Natasha Lushchik 2020-11-26 Drawing on a range of methods from across science and technology studies, digital humanities and digital arts, this book presents a comprehensive view of the big data phenomenon. Big data architectures are increasingly transforming political questions into technical management by determining classificatory systems in the social, educational, and healthcare realms. Data, and their multiple arborisations, have become new epistemic landscapes. They have also become new existential terrains. The fundamental question is: can big data be seen as a new medium in the way photography or film were when they first appeared? No new medium is ever truly new. It's always remediation of older media. What is new is the medium's re-articulation of the difference between here and there, before and after, yours and mine, knowable and unknowable, possible and impossible. This transdisciplinary volume, incorporating cultural and media theory, art, philosophy, history, and political philosophy is a key resource for readers interested in digital humanities, cultural, and media studies.

Post-Truth Imagnations Kjetil Rommetveit 2021-11-29 This book engages with post-truth as a problem of societal order and for scholarly analysis. It claims that post-truth discourse is more deeply entangled with main Western imaginations of knowledge societies than commonly recognised. Scholarly responses to post-truth have not fully addressed these entanglements, treating them either as something to be morally condemned or as accusations against which scholars have to defend themselves (for having somehow contributed to it). Aiming for wider problematisations, the authors of this book use post-truth to open scholarly and societal assumptions to critical scrutiny. Contributions are both conceptual and empirical, dealing with topics such as: the role of truth in public; deep penetrations of ICTs into main societal institutions; the politics of time in neoliberalism; shifting boundaries between fact - value, politics - science, nature - culture; and the importance of critique for public truth-telling. Case studies range from the politics of nuclear power and election meddling in the UK, over smart technologies and techno-regulation in Europe, to renewables in Australia. The book ends where the Corona story begins: as intensifications of Modernity's complex dynamics, requiring new starting points for critique.

Digital Disruption in Teaching and Testing Claire Wyatt-Smith 2021-04-28 This book provides a significant contribution to the increasing conversation concerning the place of big data in education. Offering a multidisciplinary approach with a diversity of perspectives from international scholars and industry experts, chapter authors engage in both research- and industry-informed discussions and analyses on the place of big data in education, particularly as it pertains to large-scale and ongoing assessment practices moving into the digital space. This volume offers an innovative, practical, and international view of the future of current opportunities and challenges in education and the place of assessment in this context.

Living Data Mort, Maggie 2019-07-24 As individuals increasingly seek ways of accessing, understanding and sharing data about their own bodies, this book offers a critique of the popular claim that 'more information' equates to 'better health'. In a study that redefines the public, academic and policy related debates around health, bodies, information and data, the authors consider the ways in which the phenomenon of self-diagnosis has created alternative zones of knowledge and practises which are often at odds with professional medical advice. With a focus on data that concerns significant life changes, this book explores the potential challenges related to people's changing relationships with traditional health systems as access to, and control over data shifts.

Algorithmic Culture Stefka Hristova 2020-11-24 Algorithmic Culture: How Big Data and Artificial Intelligence are Transforming Everyday Life explores the complex ways in which algorithms and big data, or algorithmic culture, are simultaneously reshaping everyday culture while perpetuating inequality and intersectional discrimination. Contributors situate issues of humanity, identity, and culture in relation to free will, surveillance, capitalism, neoliberalism, consumerism, solipsism, and creativity, offering a critique of the myriad constraints enacted by algorithms. This book argues that consumers are undergoing

an ontological overhaul due to the enhanced manipulability and increasingly mandatory nature of algorithms in the market, while also positing that algorithms may help navigate through chaos that is intrinsically present in the market democracy. Ultimately, Algorithmic Culture calls attention to the present-day cultural landscape as a whole as it has been reconfigured and re-presented by algorithms.

Distributed Perception Natasha Lushetich 2021-12-29 Contributors to this book include key theorists and practitioners from media theory, Native Science, bio-media and sound art, philosophy, art history and design informatics. Collectively, they examine the becoming-technique of animal-human-machinic perceptibilities; and micro-perceptions that lie beneath the threshold of known perceptions yet create energetic vibrations. Who, what, and where perceives, and how? What are the sedimentations, inscriptions and axiologies of animal, human and machinic perceptions? What are their perceptibilities? Deleuze uses the word 'visibilities' to indicate that visual perception isn't just a physiological given but cues operations productive of new assemblages. Perceptibilities are, by analogy, spatio-temporal, geolocative, kinaesthetic, audio-visual, and haptic operations that are always already memory. In the case of strong inscriptions, they are also epigenetic events. The contributors show distributed perception to be a key notion in addressing the emergence and persistence of plant, animal, human and machine relations. An invaluable reference for students and scholars in a range of areas including Media Theory, Sociology, Philosophy, Art and Design.

Aural Diversity John L. Drever 2022-09-23 Aural Diversity addresses a fundamental methodological challenge in music and soundscape research by considering the nature of hearing as a spectrum of diverse experiences. Bringing together an interdisciplinary array of contributors from the arts, humanities, and sciences, it challenges the idea of a normative listening experience and envisions how awareness of aural diversity can transform sonic arts, environments, and design and generate new creative listening practices. With contributors from a wide range of fields including sound studies, music, hearing sciences, disability studies, acoustics, media studies, and psychology, Aural Diversity introduces a new and much-needed paradigm that is relevant to scholars, students, and practitioners engaging with sound, music, and hearing across disciplines.

Routledge Handbook of Humanitarian Communication Lilie Chouliaraki 2021-09-30 The Routledge Handbook of Humanitarian Communication is an authoritative and comprehensive guide to research in the academic sub-field of humanitarian communication. It is broadly focused on communication that presents human vulnerability as a cause for public concern and encompasses communication with respect to humanitarian aid and development as well as human rights and "humanitarian" wars. Recent years have seen the expansion of critical scholarship on humanitarian communication across a range of academic fields, sharing recognition of the centrality of media and communications to our understanding of humanitarianism as an agent of transnational power, global governance and cosmopolitan solidarity. The Handbook brings into dialogue these diverse fields, their theoretical frameworks and methodological approaches as well as the public debates that lie at the heart of the contemporary politics of humanitarianism. It consolidates existing knowledge and maps out this emerging field as an important site of interdisciplinary knowledge production on media, communication and humanitarianism. As such, the Handbook is not simply a collection of texts sharing a similar theme. It is a coherent intellectual contribution which systematizes current critical scholarship in terms of Domains, Methods and Issues and sets an agenda of emerging and evolving research priorities in the field. Consisting of 26

chapters written by international scholars, who have contributed to laying the foundation of the field, this volume provides an essential guide to the key ideas, issues, concepts and debates of humanitarian communication.

Users & Machine Learning-based Curation Systems Hendrik Heuer 2020-09-03 Users are increasingly interacting with machine learning (ML)-based curation systems. YouTube and Facebook, two of the most visited websites worldwide, utilize such systems to curate content for billions of users. Contemporary challenges such as fake news, filter bubbles, and biased predictions make the understanding of ML-based curation systems an important and timely concern. Despite their political, social, and cultural importance, practitioners' framing of machine learning and users' understanding of ML-based curation systems have not been investigated systematically. This is problematic since machine learning - as a novel programming paradigm in which a mapping between input and output is inferred from data - poses a variety of open research questions regarding users' understanding. The first part of this thesis provides the first in-depth investigation of ML-based curation systems as socio-technical systems. The second part of the thesis contributes recommendations on how ML-based curation systems can and should be explained and audited. The first part analyses practitioners' framing of ML by examining how the term machine learning, ML applications, and ML algorithms are framed in tutorials. The thesis also investigates the beliefs that users have about YouTube and introduces a user belief framework of ML-based curation systems. Furthermore, it demonstrates how limited users' capabilities for providing input data for ML-based curation systems are. The second part evaluates different explanations of ML-based systems. This evaluation uncovered an explanatory gap between what is available to explain ML-based curation systems and what users need to understand such systems. Informed by this explanatory gap, the second part of this thesis demonstrates that audits of ML systems can be an important alternative to explanations. This demonstration of audits also uncovers a popularity bias enacted by YouTube's ML-based curation system. Based on these findings, the thesis recommends performing audits to ensure that ML-based systems act in the public's interest. Keywords: Algorithmic Bias; Algorithmic Experience; Algorithmic Transparency; Algorithms; Fake News; Human-Centered Machine Learning; Human-Computer Interaction; Machine Learning; Artificial Intelligence; Recommender Systems; Social Media; Trust; User Beliefs; User Experience; Video Recommendations; YouTube

Big Data Mining and Complexity Brian C. Castellani 2022-03-26 This book offers a much needed critical introduction to data mining and 'big data'. Supported by multiple case studies and examples, the authors provide everything needed to explore, evaluate and review big data concepts and techniques. **Museum Digitisations and Emerging Curatorial Agencies Online** Bodil Axelsson 2022-03-28 This open access book explores the multiple forms of curatorial agencies that develop when museum collection digitisations, narratives and new research findings circulate online. Focusing on Viking Age objects, it tracks the effects of antagonistic debates on discussion forums and the consequences of search engines, personalisation, and machine learning on American-based online platforms. Furthermore, it considers eco-systemic processes comprising computation, rare-earth minerals, electrical currents and data centres and cables as novel forms of curatorial actions. Thus, it explores curatorial agency as social constructivist, semiotic, algorithmic, and material. This book is of interest to scholars and students in the fields of museum studies, cultural heritage and media studies. It also appeals to museum practitioners concerned with curatorial innovation at the intersection of humanist interpretations and new materialist and more-than-human frameworks.