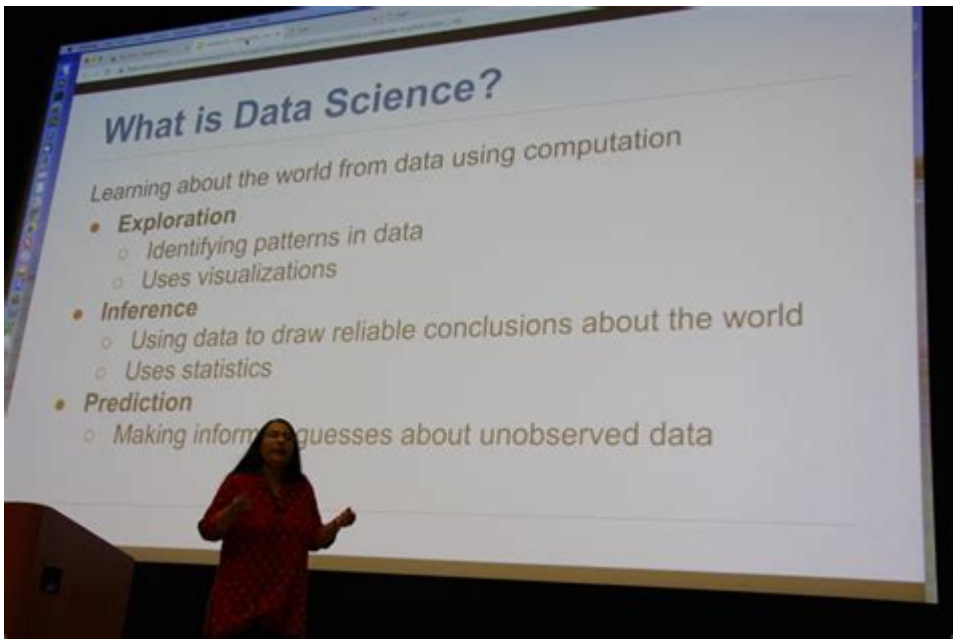
Data Science Minor Berkeley



Data Science Minor Berkeley: Your Gateway to a Data-Driven Career

Are you a Berkeley student fascinated by the power of data? Do you dream of leveraging analytical skills to solve real-world problems? Then a Data Science minor at UC Berkeley might be the perfect complement to your undergraduate studies. This comprehensive guide dives deep into the Berkeley Data Science Minor program, outlining its curriculum, benefits, admission requirements, and career prospects. We'll equip you with all the information you need to decide if this program is the right path for you.

Understanding the Berkeley Data Science Minor

The Data Science minor at UC Berkeley offers a rigorous and rewarding introduction to the field. It's designed to be accessible to students from diverse academic backgrounds, not just computer science majors. The program emphasizes practical skills alongside theoretical foundations, preparing students for a wide range of data-driven careers. Forget abstract theory; this minor is about getting your hands dirty with real-world datasets and powerful analytical tools.

Curriculum Highlights: What You'll Learn

The curriculum covers a breadth of essential data science concepts and techniques. Expect to delve into:

Data Wrangling and Preprocessing: Mastering the art of cleaning, transforming, and preparing data for analysis. This involves working with diverse data formats and dealing with missing or inconsistent values.
Statistical Modeling and Inference: Developing a strong understanding of statistical methods used for analyzing data, drawing inferences, and making predictions. You'll learn techniques like regression, hypothesis testing, and Bayesian methods.
Machine Learning Algorithms: Exploring a variety of machine learning algorithms, from supervised learning (classification, regression) to unsupervised learning (clustering, dimensionality reduction). You'll gain practical experience implementing and evaluating these algorithms.
Data Visualization and Communication: Learning to effectively communicate data insights through compelling visualizations. This involves choosing appropriate chart types, designing clear and concise graphs, and presenting findings to both technical and non-technical audiences.
Big Data Technologies (Optional): Depending on your chosen electives, you might explore technologies like Spark or Hadoop, enabling you to process and analyze massive datasets.

Specific Course Requirements: Navigating the Program

While the specific courses might change slightly from year to year, you can expect a core curriculum focused on foundational statistics, programming (often using Python), and core machine learning concepts. The minor usually requires a combination of core courses and electives allowing for some customization based on your interests (e.g., focusing on biostatistics, natural language processing, or computer vision). Check the official Berkeley website for the most up-to-date course catalog and requirements. Careful planning is key to ensuring you meet all the prerequisites and deadlines.

Benefits of a Data Science Minor at Berkeley

Pursuing a Data Science minor at Berkeley offers a multitude of advantages:

Enhanced Marketability: In today's data-driven world, data science skills are highly sought after. This minor significantly boosts your resume, making you a more competitive candidate for internships and entry-level positions.
Strong Networking Opportunities: Berkeley boasts a vibrant data science community. The minor provides opportunities to connect with professors, researchers, and fellow students, expanding your professional network.
Access to Cutting-Edge Resources: Berkeley provides access to state-of-the-art computing resources, software, and libraries, enabling you to work on complex projects and learn from the best.
Complementary Skill Set: Regardless of your major, a data science minor adds a valuable and

versatile skillset, opening doors to career opportunities you might not have considered otherwise.

Admission Requirements and Application Process

The specific requirements for the Data Science minor vary, so it's crucial to consult the official Berkeley website for the most accurate and up-to-date information. Generally, you'll need to meet certain GPA requirements and complete prerequisite courses in mathematics and programming. The application process usually involves submitting an application form and providing transcripts. It’s essential to plan ahead and meet all deadlines.

Career Paths After Graduation

A Berkeley Data Science minor opens doors to a wide range of exciting careers, including:

Data Scientist: Analyzing large datasets to extract meaningful insights and inform business decisions.
Data Analyst: Cleaning, transforming, and analyzing data to identify trends and patterns.
Machine Learning Engineer: Developing and deploying machine learning models to solve real-world problems.
Business Analyst: Utilizing data analysis to improve business processes and strategies.
Research Scientist: Applying data science techniques to advance knowledge in various fields.

Conclusion

The Data Science minor at UC Berkeley offers a powerful blend of theoretical knowledge and practical skills, preparing students for rewarding and in-demand careers. By carefully planning your coursework and taking advantage of the resources available at Berkeley, you can significantly enhance your academic and professional prospects. Remember to consult the official website for the latest updates on requirements and curriculum. This minor is an investment in your future, equipping you with the tools to thrive in the ever-evolving landscape of data science.

FAQs

1. What GPA is required for the Data Science minor at Berkeley? The specific GPA requirement varies and is best found on the official Berkeley website's current admissions page.

2. Can I pursue the Data Science minor regardless of my major? Yes, the Data Science minor is generally open to students from various academic backgrounds, not just computer science or related fields.

3. What programming languages are used in the Data Science minor? Python is commonly used, but you might encounter other languages depending on the specific courses you choose.

4. Are there any internship opportunities related to the Data Science minor? Berkeley provides resources and support for students seeking internships. The career services office and many professors can help facilitate connections with potential employers.

5. What kind of projects can I expect to work on as part of the Data Science minor? Projects vary widely, but they generally involve real-world datasets and applying the techniques learned in class. You might work on projects related to social networks, healthcare, finance, or environmental science, depending on the course and your interests.

data science minor berkeley: Data Science for Undergraduates National Academies of Sciences, Engineering, and Medicine, Division of Behavioral and Social Sciences and Education, Board on Science Education, Division on Engineering and Physical Sciences, Committee on Applied and Theoretical Statistics, Board on Mathematical Sciences and Analytics, Computer Science and Telecommunications Board, Committee on Envisioning the Data Science Discipline: The Undergraduate Perspective, 2018-11-11 Data science is emerging as a field that is revolutionizing science and industries alike. Work across nearly all domains is becoming more data driven, affecting both the jobs that are available and the skills that are required. As more data and ways of analyzing them become available, more aspects of the economy, society, and daily life will become dependent on data. It is imperative that educators, administrators, and students begin today to consider how to best prepare for and keep pace with this data-driven era of tomorrow. Undergraduate teaching, in particular, offers a critical link in offering more data science exposure to students and expanding the supply of data science talent. Data Science for Undergraduates: Opportunities and Options offers a vision for the emerging discipline of data science at the undergraduate level. This report outlines some considerations and approaches for academic institutions and others in the broader data science communities to help guide the ongoing transformation of this field.

data science minor berkeley: Roundtable on Data Science Postsecondary Education National Academies of Sciences, Engineering, and Medicine, Division of Behavioral and Social Sciences and Education, Division on Engineering and Physical Sciences, Board on Science Education, Computer Science and Telecommunications Board, Committee on Applied and Theoretical Statistics, Board on Mathematical Sciences and Analytics, 2020-10-02 Established in December 2016, the National Academies of Sciences, Engineering, and Medicine's Roundtable on Data Science Postsecondary Education was charged with identifying the challenges of and highlighting best practices in postsecondary data science education. Convening quarterly for 3 years, representatives from academia, industry, and government gathered with other experts from across the nation to discuss various topics under this charge. The meetings centered on four central themes: foundations of data science; data science across the postsecondary curriculum; data science across society; and ethics and data science. This publication highlights the presentations and discussions of each meeting.

data science minor berkeley: Diversifying the STEM Fields: From Individual to Structural Approaches Rodolfo Mendoza-Denton, Colette Patt, Adrienne R. Carter-Sowell, 2023-02-14

data science minor berkeley: *Berkeley's Philosophy of Science* Richard J. Brook, 2012-12-06 Philonous: You see, Hylas, the water of yonder fountain, how it is forced upwards, in a round

column, to a certain height, at which it breaks and falls back into the basin from whence it rose, its ascent as well as descent proceeding from the same uniform law or principle of gravitation. Just so, the same principles which at first view, lead to skepticism, pursued to a certain point, bring men back to common 1 sense. Although major works on Berkeley have considered his Philosophy of 1 George Berkeley, Three Dialogues Between Hylas and Philonous, ed. Colin Murray Turbayne, (third and final edition; London 1734); (New York: The Bobbs Merrill Company, Inc., Library of Liberal Arts, 1965), p. 211. Berkeley, in general, conveniently numbered sections in his works, and in the text of the essay, we will refer if possible to the title and section number. References to the Three Dialogues Between Hylas and Philonous will be also made in the text and refer to the dialogue number and page in the Turbayne edition cited above.

data science minor berkeley: Reinventing the Social Scientist and Humanist in the Era of Big Data Susan Brokensha, Eduan Kotzé, Burgert A. Senekal, 2019-12-01 This book explores the big data evolution by interrogating the notion that big data is a disruptive innovation that appears to be challenging existing epistemologies in the humanities and social sciences. Exploring various (controversial) facets of big data such as ethics, data power, and data justice, the book attempts to clarify the trajectory of the epistemology of (big) data-driven science in the humanities and social sciences.

data science minor berkeley: Data Science Careers, Training, and Hiring Renata Rawlings-Goss, 2019-08-02 This book is an information packed overview of how to structure a data science career, a data science degree program, and how to hire a data science team, including resources and insights from the authors experience with national and international large-scale data projects as well as industry, academic and government partnerships, education, and workforce. Outlined here are tips and insights into navigating the data ecosystem as it currently stands, including career skills, current training programs, as well as practical hiring help and resources. Also, threaded through the book is the outline of a data ecosystem, as it could ultimately emerge, and how career seekers, training programs, and hiring managers can steer their careers, degree programs, and organizations to align with the broader future of data science. Instead of riding the current wave, the author ultimately seeks to help professionals, programs, and organizations alike prepare a sustainable plan for growth in this ever-changing world of data. The book is divided into three sections, the first “Building Data Careers”, is from the perspective of a potential career seeker interested in a career in data, the second “Building Data Programs” is from the perspective of a newly forming data science degree or training program, and the third “Building Data Talent and Workforce” is from the perspective of a Data and Analytics Hiring Manager. Each is a detailed introduction to the topic with practical steps and professional recommendations. The reason for presenting the book from different points of view is that, in the fast-paced data landscape, it is helpful to each group to more thoroughly understand the desires and challenges of the other. It will, for example, help the career seekers to understand best practices for hiring managers to better position themselves for jobs. It will be invaluable for data training programs to gain the perspective of career seekers, who they want to help and attract as students. Also, hiring managers will not only need data talent to hire, but workforce pipelines that can only come from partnerships with universities, data training programs, and educational experts. The interplay gives a broader perspective from which to build.

data science minor berkeley: How to Be a High School Superstar Cal Newport, 2010-07-27 Do Less, Live More, Get Accepted What if getting into your reach schools didn’t require four years of excessive A.P. classes, overwhelming activity schedules, and constant stress? In How to Be a High School Superstar, Cal Newport explores the world of relaxed superstars—students who scored spots at the nation’s top colleges by leading uncluttered, low stress, and authentic lives. Drawing from extensive interviews and cutting-edge science, Newport explains the surprising truths behind these superstars’ mixture of happiness and admissions success, including: · Why doing less is the foundation for becoming more impressive. · Why demonstrating passion is meaningless, but being interesting is crucial. · Why accomplishments that are hard to explain are better than

accomplishments that are hard to do. These insights are accompanied by step-by-step instructions to help any student adopt the relaxed superstar lifestyle—proving that getting into college doesn't have to be a chore to survive, but instead can be the reward for living a genuinely interesting life.

data science minor berkeley: Improving Equity in Data Science Colby Tofel-Grehl, Emmanuel Schanzer, 2024-06-03 Improving Equity in Data Science offers a comprehensive look at the ways in which data science can be conceptualized and engaged more equitably within the K-16 classroom setting, moving beyond merely broadening participation in educational opportunities. This book makes the case for field wide definitions, literacies and practices for data science teaching and learning that can be commonly discussed and used, and provides examples from research of these practices and literacies in action. Authors share stories and examples of research wherein data science advances equity and empowerment through the critical examination of social, educational, and political topics. In the first half of the book, readers will learn how data science can deliberately be embedded within K-12 spaces to empower students to use it to identify and address inequity. The latter half will focus on equity of access to data science learning opportunities in higher education, with a final synthesis of lessons learned and presentation of a 360-degree framework that links access, curriculum, and pedagogy as multiple facets collectively essential to comprehensive data science equity work. Practitioners and teacher educators will be able to answer the question, "how can data science serve to move equity efforts in computing beyond basic inclusion to empowerment?" whether the goal is to simply improve definitions and approaches to research on data science or support teachers of data science in creating more equitable and inclusive environments within their classrooms.

data science minor berkeley: Law and Policy for the Quantum Age Chris Jay Hoofnagle, Simson L. Garfinkel, 2022-01-06 The Quantum Age cuts through the hype to demystify quantum technologies, their development paths, and the policy issues they raise.

data science minor berkeley: The Charisma Machine Morgan G. Ames, 2019-11-19 A fascinating examination of technological utopianism and its complicated consequences. In The Charisma Machine, Morgan Ames chronicles the life and legacy of the One Laptop per Child project and explains why—despite its failures—the same utopian visions that inspired OLPC still motivate other projects trying to use technology to "disrupt" education and development. Announced in 2005 by MIT Media Lab cofounder Nicholas Negroponte, One Laptop per Child promised to transform the lives of children across the Global South with a small, sturdy, and cheap laptop computer, powered by a hand crank. In reality, the project fell short in many ways—starting with the hand crank, which never materialized. Yet the project remained charismatic to many who were captivated by its claims of access to educational opportunities previously out of reach. Behind its promises, OLPC, like many technology projects that make similarly grand claims, had a fundamentally flawed vision of who the computer was made for and what role technology should play in learning. Drawing on fifty years of history and a seven-month study of a model OLPC project in Paraguay, Ames reveals that the laptops were not only frustrating to use, easy to break, and hard to repair, they were designed for "technically precocious boys"—idealized younger versions of the developers themselves—rather than the children who were actually using them. The Charisma Machine offers a cautionary tale about the allure of technology hype and the problems that result when utopian dreams drive technology development.

data science minor berkeley: Video Games Have Always Been Queer Bo Ruberg, 2019-03-19 Argues for the queer potential of video games While popular discussions about queerness in video games often focus on big-name, mainstream games that feature LGBTQ characters, like Mass Effect or Dragon Age, Bonnie Ruberg pushes the concept of queerness in games beyond a matter of representation, exploring how video games can be played, interpreted, and designed queerly, whether or not they include overtly LGBTQ content. Video Games Have Always Been Queer argues that the medium of video games itself can—and should—be read queerly. In the first book dedicated to bridging game studies and queer theory, Ruberg resists the common, reductive narrative that games are only now becoming more diverse. Revealing what reading D. A. Miller can bring to the

popular 2007 video game Portal, or what Eve Sedgwick offers Pong, Ruberg models the ways game worlds offer players the opportunity to explore queer experience, affect, and desire. As players attempt to 'pass' in Octodad or explore the pleasure of failure in Burnout: Revenge, Ruberg asserts that, even within a dominant gaming culture that has proved to be openly hostile to those perceived as different, queer people have always belonged in video games—because video games have, in fact, always been queer.

data science minor berkeley: Open Sources Chris DiBona, Sam Ockman, 1999-01-03 Freely available source code, with contributions from thousands of programmers around the world: this is the spirit of the software revolution known as Open Source. Open Source has grabbed the computer industry's attention. Netscape has opened the source code to Mozilla; IBM supports Apache; major database vendors haved ported their products to Linux. As enterprises realize the power of the open-source development model, Open Source is becoming a viable mainstream alternative to commercial software.Now in Open Sources, leaders of Open Source come together for the first time to discuss the new vision of the software industry they have created. The essays in this volume offer insight into how the Open Source movement works, why it succeeds, and where it is going.For programmers who have labored on open-source projects, Open Sources is the new gospel: a powerful vision from the movement's spiritual leaders. For businesses integrating open-source software into their enterprise, Open Sources reveals the mysteries of how open development builds better software, and how businesses can leverage freely available software for a competitive business advantage.The contributors here have been the leaders in the open-source arena: Brian Behlendorf (Apache) Kirk McKusick (Berkeley Unix) Tim O'Reilly (Publisher, O'Reilly & Associates) Bruce Perens (Debian Project, Open Source Initiative) Tom Paquin and Jim Hamerly (mozilla.org, Netscape) Eric Raymond (Open Source Initiative) Richard Stallman (GNU, Free Software Foundation, Emacs) Michael Tiemann (Cygnus Solutions) Linus Torvalds (Linux) Paul Vixie (Bind) Larry Wall (Perl) This book explains why the majority of the Internet's servers use open- source technologies for everything from the operating system to Web serving and email. Key technology products developed with open-source software have overtaken and surpassed the commercial efforts of billion dollar companies like Microsoft and IBM to dominate software markets. Learn the inside story of what led Netscape to decide to release its source code using the open-source mode. Learn how Cygnus Solutions builds the world's best compilers by sharing the source code. Learn why venture capitalists are eagerly watching Red Hat Software, a company that gives its key product -- Linux -- away.For the first time in print, this book presents the story of the open- source phenomenon told by the people who created this movement.Open Sources will bring you into the world of free software and show you the revolution.

data science minor berkeley: *Earth Abides* George.R. Stewart, 2015-06-30 In this profound ecological fable, a mysterious plague has destroyed the vast majority of the human race. Isherwood Williams, one of the few survivors, returns from a wilderness field trip to discover that civilization has vanished during his absence. Eventually he returns to San Francisco and encounters a female survivor who becomes his wife. Around them and their children a small community develops, living like their pioneer ancestors, but rebuilding civilization is beyond their resources, and gradually they return to a simpler way of life. A poignant novel about finding a new normal after the upheaval of a global crisis.

data science minor berkeley: *Perturbation theory for linear operators* Tosio Kato, 2013-06-29

data science minor berkeley: World Atlas of Seagrasses Frederick T. Short, 2003 Seagrasses are a vital and widespread but often overlooked coastal marine habitat. This volume provides a global survey of their distribution and conservation status.

data science minor berkeley: *Human-Centered Data Science* Cecilia Aragon, Shion Guha, Marina Kogan, Michael Muller, Gina Neff, 2022-03-01 Best practices for addressing the bias and inequality that may result from the automated collection, analysis, and distribution of large datasets. Human-centered data science is a new interdisciplinary field that draws from human-computer interaction, social science, statistics, and computational techniques. This book, written by founders

of the field, introduces best practices for addressing the bias and inequality that may result from the automated collection, analysis, and distribution of very large datasets. It offers a brief and accessible overview of many common statistical and algorithmic data science techniques, explains human-centered approaches to data science problems, and presents practical guidelines and real-world case studies to help readers apply these methods. The authors explain how data scientists' choices are involved at every stage of the data science workflow—and show how a human-centered approach can enhance each one, by making the process more transparent, asking questions, and considering the social context of the data. They describe how tools from social science might be incorporated into data science practices, discuss different types of collaboration, and consider data storytelling through visualization. The book shows that data science practitioners can build rigorous and ethical algorithms and design projects that use cutting-edge computational tools and address social concerns.

data science minor berkeley: *Bernoulli's Fallacy* Aubrey Clayton, 2021-08-03 There is a logical flaw in the statistical methods used across experimental science. This fault is not a minor academic quibble: it underlies a reproducibility crisis now threatening entire disciplines. In an increasingly statistics-reliant society, this same deeply rooted error shapes decisions in medicine, law, and public policy with profound consequences. The foundation of the problem is a misunderstanding of probability and its role in making inferences from observations. Aubrey Clayton traces the history of how statistics went astray, beginning with the groundbreaking work of the seventeenth-century mathematician Jacob Bernoulli and winding through gambling, astronomy, and genetics. Clayton recounts the feuds among rival schools of statistics, exploring the surprisingly human problems that gave rise to the discipline and the all-too-human shortcomings that derailed it. He highlights how influential nineteenth- and twentieth-century figures developed a statistical methodology they claimed was purely objective in order to silence critics of their political agendas, including eugenics. Clayton provides a clear account of the mathematics and logic of probability, conveying complex concepts accessibly for readers interested in the statistical methods that frame our understanding of the world. He contends that we need to take a Bayesian approach—that is, to incorporate prior knowledge when reasoning with incomplete information—in order to resolve the crisis. Ranging across math, philosophy, and culture, Bernoulli's Fallacy explains why something has gone wrong with how we use data—and how to fix it.

data science minor berkeley: *Perception* , 2000

data science minor berkeley: The Very First Light John Boslough, John Mather, 2008-10-20 In the early 1990s, a NASA-led team of scientists changed the way we view the universe. With the COBE (Cosmic Background Explorer) project, they showed that the microwave radiation that fills the universe must have come from the Big Bang -- effectively proving the Big Bang theory beyond any doubt. It was one of the greatest scientific findings of our generation, perhaps of all time. In The Very First Light, John Mather, one of COBE's leaders, and science writer John Boslough tell the story of how it was achieved. A gripping tale of big money, bigger egos, tense politics, and cutting-edge engineering, The Very First Light offers a rare insider's account of the world of big science.

data science minor berkeley: *MEMS and Nanotechnology, Volume 5* Barton C. Prorok, LaVern Starman, 2015-10-30 The 16thInternational Symposium on MEMS and Nanotechnology, Volume 5 of the Proceedings of the 2015SEM Annual Conference& Exposition on Experimental and Applied Mechanics, the fifth volume of nine from the Conference, brings together contributions to this important area of research and engineering. The collection presents early findings and case studies on a wide range of areas, including: Microscale and Microstructural Effects on Mechanical Behavior Dynamic Micro/Nanomechanics In-situ Techniques Mechanics of Graphene Indentation and Small Scale Testing MEMS

data science minor berkeley: Cornerstones of Attachment Research Robbie Duschinsky, 2020 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 Clinical Psychology Online and offered as a free PDF download from OUP and selected open access locations. Attachment theory is among the most popular

theories of human socioemotional development, with a global research community and widespread interest from clinicians, child welfare professionals, educationalists and parents. It has been considered one of the most generative contemporary ideas about family life in modern society. It is one of the last of the grand theories of human development that still retains an active research tradition. Attachment theory and research speak to fundamental questions about human emotions, relationships and development. They do so in terms that feel experience-near, with a remarkable combination of intuitive ideas and counter-intuitive assessments and conclusions. Over time, attachment theory seems to have become more, rather than less, appealing and popular, in part perhaps due to alignment with current concern with the lifetime implications of early brain development Cornerstones of Attachment Research re-examines the work of key laboratories that have contributed to the study of attachment. In doing so, the book traces the development in a single scientific paradigm through parallel but separate lines of inquiry. Chapters address the work of Bowlby, Ainsworth, Main and Hesse, Sroufe and Egeland, and Shaver and Mikulincer. Cornerstones of Attachment Research utilises attention to these five research groups as a lens on wider themes and challenges faced by attachment research over the decades. The chapters draw on a complete analysis of published scholarly and popular works by each research group, as well as much unpublished material.

data science minor berkeley: Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition , 2012-01-09 Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Ophthalmology and Optometry Research and Practice. The editors have built Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Ophthalmology and Optometry Research and Practice in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of Issues in Ophthalmology and Optometry Research and Practice: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

data science minor berkeley: Subject Directory of Special Libraries Gale Group, Gale Research Staff, 2002-04

data science minor berkeley: Why We Sleep Matthew Walker, 2017-10-03 Sleep is one of the most important but least understood aspects of our life, wellness, and longevity ... An explosion of scientific discoveries in the last twenty years has shed new light on this fundamental aspect of our lives. Now ... neuroscientist and sleep expert Matthew Walker gives us a new understanding of the vital importance of sleep and dreaming--Amazon.com.

data science minor berkeley: Learning to see (better): improving visual deficits with perceptual learning Gianluca Campana, Marcello Maniglia, 2015-07-09 Perceptual learning can be defined as a long lasting improvement in a perceptual skill following a systematic training, due to changes in brain plasticity at the level of sensory or perceptual areas. Its efficacy has been reported for a number of visual tasks, such as detection or discrimination of visual gratings (De Valois, 1977; Fiorentini & Berardi, 1980, 1981; Mayer, 1983), motion direction discrimination (Ball & Sekuler, 1982, 1987; Ball, Sekuler, & Machamer, 1983), orientation judgments (Fahle, 1997; Shiu & Pashler, 1992; Vogels & Orban, 1985), hyperacuity (Beard, Levi, & Reich, 1995; Bennett & Westheimer, 1991; Fahle, 1997; Fahle & Edelman, 1993; Kumar & Glaser, 1993; McKee & Westheimer, 1978; Saarinen & Levi, 1995), visual search tasks (Ahissar & Hochstein, 1996; Casco, Campana, & Gidiuli, 2001; Campana & Casco, 2003; Ellison & Walsh, 1998; Sireteanu & Rettenbach, 1995) or texture discrimination (Casco et al., 2004; Karni & Sagi, 1991, 1993). Perceptual learning is long-lasting and specific for basic stimulus features (orientation, retinal position, eye of presentation) suggesting a

long-term modification at early stages of visual analysis, such as in the striate (Karni & Sagi, 1991; 1993; Saarinen & Levi, 1995; Pourtois et al., 2008) and extrastriate (Ahissar & Hochstein, 1996) visual cortex. Not confined to a basic research paradigm, perceptual learning has recently found application outside the laboratory environment, being used for clinical treatment of a series of visually impairing conditions such as amblyopia (Levi & Polat, 1996; Levi, 2005; Levi & Li, 2009, Polat et al., 2004; Zhou et al., 2006), myopia (Tan & Fong, 2008) or presbyopia (Polat, 2009). Different authors adopted different paradigms and stimuli in order to improve malfunctioning visual abilities, such as Vernier Acuity (Levi, Polat & Hu, 1997), Gratings detection (Zhou et al., 2006), oculomotor training (Rosengarth et al., 2013) and lateral interactions (Polat et al., 2004). The common result of these studies is that a specific training produces not only improvements in trained functions, but also in other, untrained and higher-level visual functions, such as visual acuity, contrast sensitivity and reading speed (Levi et al, 1997a, 1997b; Polat et al., 2004; Polat, 2009; Tan & Fong, 2008). More recently (Maniglia et al. 2011), perceptual learning with the lateral interactions paradigm has been successfully used for improving peripheral vision in normal people (by improving contrast sensitivity and reducing crowding, the interference in target discrimination due to the presence of close elements), offering fascinating new perspectives in the rehabilitation of people who suffer of central vision loss, such as maculopathy patients, partially overcoming the structural differences between fovea and periphery that limit the vision outside the fovea. One of the strongest point, and a distinguishing feature of perceptual learning, is that it does not just improve the subject's performance, but produces changes in brain's connectivity and efficiency, resulting in long-lasting, enduring neural changes. By tailoring the paradigms on each subject's needs, perceptual learning could become the treatment of choice for the rehabilitation of visual functions, emerging as a simple procedure that doesn't need expensive equipment.

data science minor berkeley: Research Data Management Joyce M. Ray, 2014 It has become increasingly accepted that important digital data must be retained and shared in order to preserve and promote knowledge, advance research in and across all disciplines of scholarly endeavor, and maximize the return on investment of public funds. To meet this challenge, colleges and universities are adding data services to existing infrastructures by drawing on the expertise of information professionals who are already involved in the acquisition, management and preservation of data in their daily jobs. Data services include planning and implementing good data management practices, thereby increasing researchers' ability to compete for grant funding and ensuring that data collections with continuing value are preserved for reuse. This volume provides a framework to guide information professionals in academic libraries, presses, and data centers through the process of managing research data from the planning stages through the life of a grant project and beyond. It illustrates principles of good practice with use-case examples and illuminates promising data service models through case studies of innovative, successful projects and collaborations.

data science minor berkeley: Minor Creatures Ivan Kreilkamp, 2018-11-07 In the nineteenth century, richly-drawn social fiction became one of England's major cultural exports. At the same time, a surprising companion came to stand alongside the novel as a key embodiment of British identity: the domesticated pet. In works by authors from the Brontës to Eliot, from Dickens to Hardy, animals appeared as markers of domestic coziness and familial kindness. Yet for all their supposed significance, the animals in nineteenth-century fiction were never granted the same fullness of character or consciousness as their human masters: they remain secondary figures. Minor Creatures re-examines a slew of literary classics to show how Victorian notions of domesticity, sympathy, and individuality were shaped in response to the burgeoning pet class. The presence of beloved animals in the home led to a number of welfare-minded political movements, inspired in part by the Darwinian thought that began to sprout at the time. Nineteenth-century animals may not have been the heroes of their own lives but, as Kreilkamp shows, the history of domestic pets deeply influenced the history of the English novel.

data science minor berkeley: Scientific and Technical Aerospace Reports , 1994

data science minor berkeley: Directory of Special Libraries and Information Centers ,

1997

data science minor berkeley: Risk Terrain Modeling Joel M. Caplan, Leslie W. Kennedy, 2016-06-28 Imagine using an evidence-based risk management model that enables researchers and practitioners alike to analyze the spatial dynamics of crime, allocate resources, and implement custom crime and risk reduction strategies that are transparent, measurable, and effective. Risk Terrain Modeling (RTM) diagnoses the spatial attractors of criminal behavior and makes accurate forecasts of where crime will occur at the microlevel. RTM informs decisions about how the combined factors that contribute to criminal behavior can be targeted, connections to crime can be monitored, spatial vulnerabilities can be assessed, and actions can be taken to reduce worst effects. As a diagnostic method, RTM offers a statistically valid way to identify vulnerable places. To learn more, visit http://www.riskterrainmodeling.com and begin using RTM with the many free tutorials and resources.

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