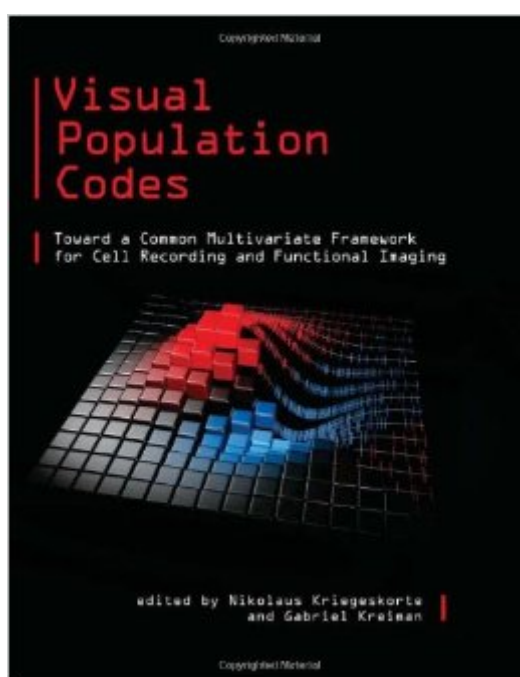


The book was found

# Visual Population Codes: Toward A Common Multivariate Framework For Cell Recording And Functional Imaging (Computational Neuroscience Series)



## Synopsis

Vision is a massively parallel computational process, in which the retinal image is transformed over a sequence of stages so as to emphasize behaviorally relevant information (such as object category and identity) and deemphasize other information (such as viewpoint and lighting). The processes behind vision operate by concurrent computation and message passing among neurons within a visual area and between different areas. The theoretical concept of "population code" encapsulates the idea that visual content is represented at each stage by the pattern of activity across the local population of neurons. Understanding visual population codes ultimately requires multichannel measurement and multivariate analysis of activity patterns. Over the past decade, the multivariate approach has gained significant momentum in vision research. Functional imaging and cell recording measure brain activity in fundamentally different ways, but they now use similar theoretical concepts and mathematical tools in their modeling and analyses. With a focus on the ventral processing stream thought to underlie object recognition, this book presents recent advances in our understanding of visual population codes, novel multivariate pattern-information analysis techniques, and the beginnings of a unified perspective for cell recording and functional imaging. It serves as an introduction, overview, and reference for scientists and students across disciplines who are interested in human and primate vision and, more generally, in understanding how the brain represents and processes information.

## Book Information

Series: Computational Neuroscience Series

Hardcover: 656 pages

Publisher: The MIT Press; 1 edition (October 28, 2011)

Language: English

ISBN-10: 0262016249

ISBN-13: 978-0262016247

Product Dimensions: 7 x 1.1 x 9 inches

Shipping Weight: 2.6 pounds (View shipping rates and policies)

Average Customer Review: Be the first to review this item

Best Sellers Rank: #2,573,079 in Books (See Top 100 in Books) #11 in [Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Localization](#) #1657 in [Books > Textbooks > Social Sciences > Psychology > Neuropsychology](#) #1687 in [Books > Textbooks > Medicine & Health Sciences > Medicine > Basic Sciences > Neuroscience](#)

[Download to continue reading...](#)

Visual Population Codes: Toward a Common Multivariate Framework for Cell Recording and Functional Imaging (Computational Neuroscience Series) Fundamentals of Computational Neuroscience Computational Explorations in Cognitive Neuroscience: Understanding the Mind by Simulating the Brain Graphical Models: Foundations of Neural Computation (Computational Neuroscience) From Computer to Brain: Foundations of Computational Neuroscience Recording Unhinged: Creative and Unconventional Music Recording Techniques Bk/online media (Music Pro Guides) Recording Culture: Powwow Music and the Aboriginal Recording Industry on the Northern Plains (Refiguring American Music) Practical Recording Techniques: The Step-by-Step Approach to Professional Audio Recording MCPD Self-Paced Training Kit (Exams 70-536, 70-528, 70-547): Microsoft® .NET Framework Web Developer Core Requirements: Microsoft .Net Framework Web ... Requirements (Microsoft Press Training Kit) Verification of Computer Codes in Computational Science and Engineering Principles of Computational Cell Biology Secrets of Making and Breaking Codes: A Hands-on Guide to Both Simple and Sophisticated Codes to Easily Help You Become a Codemaster Making Cell Groups Work: Navigating the Transformation to a Cell-Based Church Black & Decker Codes for Homeowners, Updated 3rd Edition: Electrical - Mechanical - Plumbing - Building - Current with 2015-2017 Codes (Black & Decker Complete Guide) Cell and Tissue Ultrastructure: A Functional Perspective Guide to the Evaluation of Functional Ability: How to Request, Interpret, and Apply Functional Capacity Evaluations (American Medical Association) Wheater's Functional Histology: A Text and Colour Atlas, 6e (FUNCTIONAL HISTOLOGY (WHEATER'S)) Wheater's Functional Histology: A Text and Colour Atlas (Book with CD-ROM) (Functional Histology (Wheater's)) Handbook of Item Response Theory Modeling: Applications to Typical Performance Assessment (Multivariate Applications Series) Ethical and Legal Issues for Imaging Professionals, 2e (Towsley-Cook, Ethical and Legal Issues for Imaging Professionals)

[Dmca](#)