



Analog VLSI Circuits for the Perception of Visual Motion

Alan A. Stocker

Download now

[Click here](#) if your download doesn't start automatically

Analog VLSI Circuits for the Perception of Visual Motion

Alan A. Stocker

Analog VLSI Circuits for the Perception of Visual Motion Alan A. Stocker

Although it is now possible to integrate many millions of transistors on a single chip, traditional digital circuit technology is now reaching its limits, facing problems of cost and technical efficiency when scaled down to ever-smaller feature sizes. The analysis of biological neural systems, especially for visual processing, has allowed engineers to better understand how complex networks can effectively process large amounts of information, whilst dealing with difficult computational challenges.

Analog and parallel processing are key characteristics of biological neural networks. Analog VLSI circuits using the same features can therefore be developed to emulate brain-style processing. Using standard CMOS technology, they can be cheaply manufactured, permitting efficient industrial and consumer applications in robotics and mobile electronics.

This book explores the theory, design and implementation of analog VLSI circuits, inspired by visual motion processing in biological neural networks. Using a novel approach pioneered by the author himself, Stocker explains in detail the construction of a series of electronic chips, providing the reader with a valuable practical insight into the technology.

Analog VLSI Circuits for the Perception of Visual Motion:

- analyses the computational problems in visual motion perception;
- examines the issue of optimization in analog networks through high level processes such as motion segmentation and selective attention;
- demonstrates network implementation in analog VLSI CMOS technology to provide computationally efficient devices;
- sets out measurements of final hardware implementation;
- illustrates the similarities of the presented circuits with the human visual motion perception system;
- includes an accompanying website with video clips of circuits under real-time visual conditions and additional supplementary material.

With a complete review of all existing neuromorphic analog VLSI systems for visual motion sensing, *Analog VLSI Circuits for the Perception of Visual Motion* is a unique reference for advanced students in electrical engineering, artificial intelligence, robotics and computational neuroscience. It will also be useful for researchers, professionals, and electronics engineers working in the field.

 [Download Analog VLSI Circuits for the Perception of Visual ...pdf](#)

 [Read Online Analog VLSI Circuits for the Perception of Visua ...pdf](#)

Download and Read Free Online Analog VLSI Circuits for the Perception of Visual Motion Alan A. Stocker

From reader reviews:

Gary Cornejo:

With other case, little persons like to read book Analog VLSI Circuits for the Perception of Visual Motion. You can choose the best book if you want reading a book. So long as we know about how is important any book Analog VLSI Circuits for the Perception of Visual Motion. You can add knowledge and of course you can around the world by a book. Absolutely right, mainly because from book you can know everything! From your country until foreign or abroad you will find yourself known. About simple issue until wonderful thing it is possible to know that. In this era, we could open a book or searching by internet system. It is called e-book. You should use it when you feel bored to go to the library. Let's read.

Jessie Lloyd:

Nowadays reading books become more and more than want or need but also turn into a life style. This reading addiction give you lot of advantages. The huge benefits you got of course the knowledge the particular information inside the book in which improve your knowledge and information. The information you get based on what kind of book you read, if you want attract knowledge just go with training books but if you want experience happy read one along with theme for entertaining such as comic or novel. The Analog VLSI Circuits for the Perception of Visual Motion is kind of book which is giving the reader unpredictable experience.

James Fletcher:

Reading can called head hangout, why? Because if you find yourself reading a book especially book entitled Analog VLSI Circuits for the Perception of Visual Motion your brain will drift away trough every dimension, wandering in every aspect that maybe unknown for but surely can become your mind friends. Imaging every single word written in a publication then become one type conclusion and explanation in which maybe you never get ahead of. The Analog VLSI Circuits for the Perception of Visual Motion giving you one more experience more than blown away your thoughts but also giving you useful info for your better life within this era. So now let us present to you the relaxing pattern the following is your body and mind are going to be pleased when you are finished reading through it, like winning an activity. Do you want to try this extraordinary shelling out spare time activity?

Sara Love:

Your reading sixth sense will not betray a person, why because this Analog VLSI Circuits for the Perception of Visual Motion e-book written by well-known writer who really knows well how to make book which might be understand by anyone who all read the book. Written throughout good manner for you, still dripping wet every ideas and writing skill only for eliminate your own hunger then you still skepticism Analog VLSI Circuits for the Perception of Visual Motion as good book not simply by the cover but also by content. This is one reserve that can break don't assess book by its protect, so do you still needing another

sixth sense to pick this!?! Oh come on your looking at sixth sense already said so why you have to listening to another sixth sense.

Download and Read Online Analog VLSI Circuits for the Perception of Visual Motion Alan A. Stocker #UAKFS9ZNM84

Read Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker for online ebook

Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker books to read online.

Online Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker ebook PDF download

Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker Doc

Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker Mobipocket

Analog VLSI Circuits for the Perception of Visual Motion by Alan A. Stocker EPub