Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series)

Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series)

Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series)
All biological systems with vision move about their environments and successfully perform many tasks. The same capabilities are needed in the world of robots. To that end, recent results in empirical fields that study insects and primates, as well as in theoretical and applied disciplines that design robots, have uncovered a number of the principles of navigation. To offer a unifying approach to the situation, this book brings together ideas from zoology, psychology, neurobiology, mathematics, geometry, computer science, and engineering. It contains theoretical developments that will be essential in future research on the topic -- especially new representations of space with less complexity than Euclidean representations possess. These representations allow biological and artificial systems to compute from images in order to successfully deal with their environments.

In this book, the barriers between different disciplines have been smoothed and the workings of vision systems of biological organisms are made clear in computational terms to computer scientists and engineers. At the same time, fundamental principles arising from computational considerations are made clear both to empirical scientists and engineers. Empiricists can generate a number of hypotheses that they could then study through various experiments. Engineers can gain insight for designing robotic systems that perceive aspects of their environment.

For the first time, readers will find:
* the insect vision system presented in a way that can be understood by computational scientists working in computer vision and engineering;
* three complete, working robotic navigation systems presented with all the issues related to their design analyzed in detail;
* the beginning of a computational theory of direct perception, as advocated by Gibson, presented in detail with applications for a variety of problems; and
* the idea that vision systems could compute space representations different from perfect metric descriptions -- and be used in robotic tasks -- advanced for both artificial and biological systems.

Download and Read Free Online Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series)

From reader reviews:

James Rose:

This Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) tend to be reliable for you who want to be considered a successful person, why. The key reason why of this Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) can be one of several great books you must have will be giving you more than just simple reading through food but feed a person with information that might be will shock your preceding knowledge. This book is usually handy, you can bring it everywhere you go and whenever your conditions at e-book and printed versions. Beside that this Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) forcing you to have an enormous of experience like rich vocabulary, giving you test of critical thinking that we understand it useful in your day action. So , let's have it and enjoy reading.

Stacey Lawrence:

Reading a publication tends to be new life style in this era globalization. With reading through you can get a lot of information which will give you benefit in your life. Along with book everyone in this world may share their idea. Books can also inspire a lot of people. Plenty of author can inspire their reader with their story or perhaps their experience. Not only situation that share in the ebooks. But also they write about the data about something that you need example. How to get the good score toefl, or how to teach your sons or daughters, there are many kinds of book that you can get now. The authors these days always try to improve their skill in writing, they also doing some investigation before they write to their book. One of them is this Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series).

Chad Davis:

Spent a free time to be fun activity to complete! A lot of people spent their leisure time with their family, or their very own friends. Usually they undertaking activity like watching television, planning to beach, or picnic from the park. They actually doing same every week. Do you feel it? Do you wish to something different to fill your free time/ holiday? Could possibly be reading a book could be option to fill your cost-free time/ holiday. The first thing you will ask may be what kinds of publication that you should read. If you want to test look for book, may be the publication untitled Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) can be good book to read. May be it might be best activity to you.

Thomas Pilcher:

As a pupil exactly feel bored for you to reading. If their teacher asked them to go to the library in order to make summary for some book, they are complained. Just little students that has reading's soul or real their leisure activity. They just do what the professor want, like asked to the library. They go to right now there but nothing reading significantly. Any students feel that looking at is not important, boring and can't see

colorful photos on there. Yeah, it is for being complicated. Book is very important for you. As we know that on this era, many ways to get whatever you want. Likewise word says, ways to reach Chinese's country. So , this Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) can make you really feel more interested to read.

Download and Read Online Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) #57MVFO1AHBR

Read Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) for online ebook

Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) 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 Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) books to read online.

Online Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) ebook PDF download

Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) Doc

Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) Mobipocket

Visual Navigation: From Biological Systems To Unmanned Ground Vehicles (Computer Vision Series) EPub