Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability

By Danilo Mandic, Jonathon Chambers

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers

New technologies in engineering, physics and biomedicine are demanding increasingly complex methods of digital signal processing. By presenting the latest research work the authors demonstrate how real-time recurrent neural networks (RNNs) can be implemented to expand the range of traditional signal processing techniques and to help combat the problem of prediction. Within this text neural networks are considered as massively interconnected nonlinear adaptive filters.

- Analyses the relationships between RNNs and various nonlinear models and filters, and introduces spatio-temporal architectures together with the concepts of modularity and nesting
- Examines stability and relaxation within RNNsPresents on-line learning algorithms for nonlinear adaptive filters and introduces new paradigms which exploit the concepts of a priori and a posteriori errors, data-reusing adaptation, and normalisation
- Studies convergence and stability of on-line learning algorithms based upon optimisation techniques such as contraction mapping and fixed point iteration
- Describes strategies for the exploitation of inherent relationships between parameters in RNNs
- Discusses practical issues such as predictability and nonlinearity detecting and includes several practical applications in areas such as air pollutant modelling and prediction, attractor discovery and chaos, ECG signal processing, and speech processing

Recurrent Neural Networks for Prediction offers a new insight into the learning algorithms, architectures and stability of recurrent neural networks and, consequently, will have instant appeal. It provides an extensive background for researchers, academics and postgraduates enabling them to apply such networks in new applications.

VISIT OUR COMMUNICATIONS TECHNOLOGY WEBSITE!
http://www.wiley.co.uk/commstech/

VISIT OUR WEB PAGE!

http://www.wiley.co.uk/

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability

By Danilo Mandic, Jonathon Chambers

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers

New technologies in engineering, physics and biomedicine are demanding increasingly complex methods of digital signal processing. By presenting the latest research work the authors demonstrate how real-time recurrent neural networks (RNNs) can be implemented to expand the range of traditional signal processing techniques and to help combat the problem of prediction. Within this text neural networks are considered as massively interconnected nonlinear adaptive filters.

- Analyses the relationships between RNNs and various nonlinear models and filters, and introduces spatio-temporal architectures together with the concepts of modularity and nesting
- Examines stability and relaxation within RNNsPresents on-line learning algorithms for nonlinear adaptive filters and introduces new paradigms which exploit the concepts of a priori and a posteriori errors, data-reusing adaptation, and normalisation
- Studies convergence and stability of on-line learning algorithms based upon optimisation techniques such as contraction mapping and fixed point iteration
- Describes strategies for the exploitation of inherent relationships between parameters in RNNs
- Discusses practical issues such as predictability and nonlinearity detecting and includes several practical applications in areas such as air pollutant modelling and prediction, attractor discovery and chaos, ECG signal processing, and speech processing

Recurrent Neural Networks for Prediction offers a new insight into the learning algorithms, architectures and stability of recurrent neural networks and, consequently, will have instant appeal. It provides an extensive background for researchers, academics and postgraduates enabling them to apply such networks in new applications.

VISIT OUR COMMUNICATIONS TECHNOLOGY WEBSITE!
http://www.wiley.co.uk/commstech/

VISIT OUR WEB PAGE!
http://www.wiley.co.uk/

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers Bibliography

- Sales Rank: #1696434 in Books
- Published on: 2001-08-07
- Original language: English
- Number of items: 1
- Dimensions: 9.72" h x .90" w x 6.83" l, 1.24 pounds
- Binding: Hardcover

- 304 pages

Download and Read Free Online Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers

Editorial Review

From the Back Cover
New technologies in engineering, physics and biomedicine are demanding increasingly complex methods of digital signal processing. By presenting the latest research work the authors demonstrate how real-time recurrent neural networks (RNNs) can be implemented to expand the range of traditional signal processing techniques and to help combat the problem of prediction. Within this text neural networks are considered as massively interconnected nonlinear adaptive filters.

- Analyses the relationships between RNNs and various nonlinear models and filters, and introduces spatio-temporal architectures together with the concepts of modularity and nesting
- Examines stability and relaxation within RNNs
- Presents on-line learning algorithms for nonlinear adaptive filters and introduces new paradigms which exploit the concepts of a priori and a posteriori errors, data-reusing adaptation, and normalisation
- Studies convergence and stability of on-line learning algorithms based upon optimisation techniques such as contraction mapping and fixed point iteration
- Describes strategies for the exploitation of inherent relationships between parameters in RNNs
- Discusses practical issues such as predictability and nonlinearity detecting and includes several practical applications in areas such as air pollutant modelling and prediction, attractor discovery and chaos, ECG signal processing, and speech processing

Recurrent Neural Networks for Prediction offers a new insight into the learning algorithms, architectures and stability of recurrent neural networks and, consequently, will have instant appeal. It provides an extensive background for researchers, academics and postgraduates enabling them to apply such networks in new applications.

Users Review

From reader reviews:

Jacqueline Kang:

Why don't make it to be your habit? Right now, try to ready your time to do the important take action, like looking for your favorite publication and reading a e-book. Beside you can solve your short lived problem; you can add your knowledge by the e-book entitled Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability. Try to face the book Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability as your good friend. It means that it can to be your friend when you really feel alone and beside that of course make you smarter than ever before. Yeah, it is very fortuned for you. The book makes you much more confidence because you can know every little thing by the book. So , let me make new experience and also knowledge with this book.

Vicky Bowman:

The e-book with title Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and

Stability contains a lot of information that you can study it. You can get a lot of advantage after read this book. This book exist new know-how the information that exist in this book represented the condition of the world at this point. That is important to yo7u to find out how the improvement of the world. This particular book will bring you in new era of the syndication. You can read the e-book on your own smart phone, so you can read this anywhere you want.

Carlos Quirk:

The particular book Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability has a lot details on it. So when you make sure to read this book you can get a lot of help. The book was published by the very famous author. The author makes some research previous to write this book. This particular book very easy to read you can obtain the point easily after scanning this book.

Pearl Dyson:

The book untitled Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability contain a lot of information on it. The writer explains the woman idea with easy method. The language is very easy to understand all the people, so do not worry, you can easy to read that. The book was written by famous author. The author gives you in the new era of literary works. You can read this book because you can read on your smart phone, or device, so you can read the book with anywhere and anytime. In a situation you wish to purchase the e-book, you can open up their official web-site and also order it. Have a nice study.

Download and Read Online Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers #AD0HESFWNKL

Read Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers for online ebook

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers 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 Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers books to read online.

Online Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers ebook PDF download

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers Doc

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers Mobipocket

Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers EPub

AD0HESFWNKL: Recurrent Neural Networks for Prediction: Learning Algorithms, Architectures and Stability By Danilo Mandic, Jonathon Chambers