



What can we help you discover?

Synapse February 2004

Greetings from all of us at NeuralWare. Synapse is NeuralWare's newsletter with the latest information for friends and customers of NeuralWare. In this issue, we will cover the following:

- NeuralWare unveils new Academic Program
- The 2004 training schedule including a new, never before offered course
- Tips from our Technical Support Group
- Submit your own case study and receive credits towards purchases
- Other miscellaneous tidbits

NeuralWare Unveils New Program for Academic Institutions

Universities and other accredited degree granting institutions have always been important NeuralWare partners. We are pleased to announce a new program for Academic Institutions. The new program offers alternatives for both Teaching and Research use. Included in the program are licensing options ranging from individual use to University Site License use. NeuralWare software is used in classrooms and academic research facilities around the globe in engineering, medicine, business, computer science, psychology, and other disciplines. Students and faculty get hands-on use of sophisticated software that both demonstrates the power of neural networks and that can be used to solve real problems. Representative academic research areas include:

- predicting the effects of weather uncertainties on power systems;
- neural network-based measurement systems to provide material structural information to a process control;
- predicting business failures;
- predicting exchange rates;
- face and other types of image recognition;
- investigating human recognition of auditory patterns such as speech and music and correlations with cognition;
- breast cancer detection.

Additional program details are available on our website in our [Academic Section](#). You may also contact academics@neuralware.com with specific program questions.

Training

NeuralWare has released our 2004 training course schedule. Included in the schedule is a new course, Developing Neural Network Applications. This three-day neural computing course focuses on the practical aspects of creating and deploying neural network applications using NeuralWare development tools. It provides an overview of the NeuralWare product line, and describes the software architecture of each application and library. It also identifies the functional and architecture relationship among the products. Next, the course presents an overview of the methods that can be used to deploy neural network models, including standard NeuralWare .nnd and .npr files, FlashCode™, Designer Pack, and use of NeuralWare library components. Additional information and a syllabus are available on our website at www.neuralware.com/training.jsp.



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Register by February 28 for a NeuralWare course from the current series and receive a 10% early-bird discount. Courses are taught in Pittsburgh at our conveniently located headquarters just a few miles from downtown Pittsburgh.

Our regularly scheduled training courses ensure that our customers are knowledgeable about neural network technology and using our software effectively. See the schedule below to select the course that best fits your schedule. Make sure to visit our website www.neuralware.com/training.jsp or talk with our sales department to get complete course information before making your final selection.

Class size is limited to offer participants personalized instruction when necessary. A well-organized yet informal structure allows flexibility and provides opportunities for real-world information sharing and problem solving. When you visit the training website, look for comments from previous attendees.

If you have several individuals within your company that would like to attend our course, let us know and we will be happy to provide information on our on-site training programs. Contact us via email at training@neuralware.com.

If you would like to expand your knowledge of neural network technology using NeuralWare's state-of-the-art tools, plan to attend a course soon. Don't forget the 10% early-bird discount. Contact us today!

Current training schedule

[Applying Neural Networks to Business, Industry and Government](#) (4.5 days)

Mar 15-19

Jun 7-11

[Developing Neural Network Applications](#) (3 days)

Feb 23-25

May 17-19

[Advanced Neural Computing](#) (3.5 days)

Apr 19-22

Here are some comments from our August, 2003 Applying Neural Networks to Business, Industry and Government course.

"I was initially intimidated by the concept of neural networks. I walked away from this course with an excellent grasp of the fundamentals and a vision for a multitude of opportunities."

"The course was very practical; the instructors were very knowledgeable and everyone at the facility was kind, friendly and helpful."



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NeuralWorks Upgrade Information

NeuralWare is currently shipping the 3.12 version of Predict and the 5.52 version of Professional II/PLUS. New to the 3.x version of Predict is a Self-Organizing Map opening the software up to a whole new series of applications (clustering). The current version is also designed to take advantage of the latest operating systems and version of Excel. Contact sales@neuralware.com for the latest update pricing and options.

Submitting an Article

If you wish to submit a case study, application note, or technical tip for publication, please contact NeuralWare sales. If we publish your contribution, you will receive a one-year Technical Assistance Program (TAP) subscription for the NeuralWare program that you use - a minimum \$375 value. If you prefer, you may also apply the credit towards NeuralWare products for training! We hope you will consider this exciting opportunity.

Several of NeuralWare's customers have taken advantage of this offer. See the recent success story in the issue by Abby Ilumoka of the University of Hartford and watch for other customer stories in upcoming issues. You may view this article by visiting our website's ["In the News"](#) section.

Tips from our Technical Support Group

Automating the Model Build Process

Features exist within NeuralWorks Predict and NeuralWorks Professional II/PLUS products, which allow us to automatically train, test, and run data through neural networks without human intervention. It is possible, for example, to train 100 networks overnight.

NeuralWorks Predict

This capability is available in Predict through a Command-Line Interface, and is included in all sales of Predict. Consider the following 'script file' of commands:

```
[file evap.npc]  
  
log      my_evap.log  
new  
data     evap.txt,,all  
defaults predict moderate moderate comprehensive comprehensive  
fields   6 0 1 0  
saveas   my_evap.npr  
build    all force  
test     test corr 1 my_evap.tst  
run      evap.txt my_evap.out stdout|hasheader  
save
```



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The above file creates, trains, tests, and runs a data file through a new Predict model, writing results into a log file and generating ASCII results files. Although a single model is created, other commands can easily be used to build numerous models which explore, for example, the affect of using different random number seeds. (Different random starting weights yield different models with differing results.) Such a script file is processed with the command:

```
predictcl.exe evap.npc
```

and that command can be typed into a Dos window, entered into a Dos batch file or Linux / Unix script file, or the command can be called from a Visual Basic, C, Java, or other executing program.

Please see the Command-Line Interface chapter of the Predict User Guide for details. Contact help@neuralware.com if you would like a sample Dos batch file which trains several models.

NeuralWorks Professional II/PLUS

The *Automate* feature of Professional II/PLUS performs a similar task as described above, with the caveat that users must first create and save an untrained neural network. Automate can initialize, train, test, and run data through a neural network, but it cannot create a new network.

Here's a sample 'script file' that opens, trains, and runs data through a neural network:

```
[file automate.dat]  
  
open      my_net.nnd  
initialize  
savebest  100000 500 10  
set testfile  my_valid.nna  
test  
save
```

Professional II/PLUS runs the *Automate* program using a command similar to the following:

```
nw2.exe -xuautomate
```

and this command can be typed into a Dos window, entered into a Dos batch file or Linux / Unix script file, or the command can be called from a Visual Basic, C, Java, or other executing program.

Please see the Automate chapter of Start | Programs | NeuralWare | NeuralWorks | Professional | Supplement Guide for details. Contact help@neuralware.com if you would like a sample Dos batch file which trains several models.

Personal License Extension Information

If you are someone who needs to use your NeuralWare software both at home and at work, you are a candidate for NeuralWare's personal license extension (PLE). With a PLE you can request a



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second license key for your home or laptop computer for the low one-time cost of \$250. Only users who are on the technical assistance program (TAP) are eligible for this benefit. To take advantage of the TAP/PLE program, contact our sales department for more information at sales@neuralware.com.

Canceling your subscription

If you wish to discontinue your subscription to the newsletter, send email to newsletter@neuralware.com and ask to be removed from the distribution list. Please insert the word "remove" in the subject line.

Additional Information

Additional information on NeuralWare is available at www.neuralware.com! We hope you will visit us!

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