พิมพ์ต้นฉบับบทคัดย่อวิทยานิพนธ์ภายในกรอบสีเขียวนี้เพียงแผ่นเดียว

C618426 : MAJOR COMPUTER SCIENCE
KEY WORD: NEURAL NEWORK / BACK PROPAGATION

SUPATTA SUNTARAPAI : DEVELOPMENT OF SOFTWARE TOOLS FOR NEURAL NETWORK SIMULATION USING BACK PROPAGATION MODEL. THESIS ADVISOR : WIWAT VATANAWOOD. 74 pp. ISBN 974-636-134-1

The objectives of this research are studying and developing of software tools that simulate neural network using back propagation model. The software tools is developed using Dynamic Link Library (DLL) technique which is callable by other Windows applications. The functions of the software tools consist of structure defining function, parameters setting function, data files defining function, list box that displayed sum square error defining function, training termination function and learning and testing function. This software tools can define up to 5 architectural layers and not less than 500 neural nodes. The standard parameters are noise, momentum and learning rate. The standard data files are input file, weight file, sum square error file, test file and output file. With these features, the data files can be used for further processing. The training function of the software tools can be terminated by either reaching number of pre-defined loops or requesting by user.

In order to test the software tools, Visual Basic application was developed to test all the functions. The application will use back propagation technique to learn and recognize numeric patterns (0 through 9). The testing environment are 529 nodes in input layers,10 nodes in hidden layers, 4 nodes in output layers and training examples pattern of 10 numeric pattern. The testing result indicated that the software tools works quite well.

ภาควิชา วิศวกรรมคอมพิวเตอร์ ลายมือชื่อนิสิต .....

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