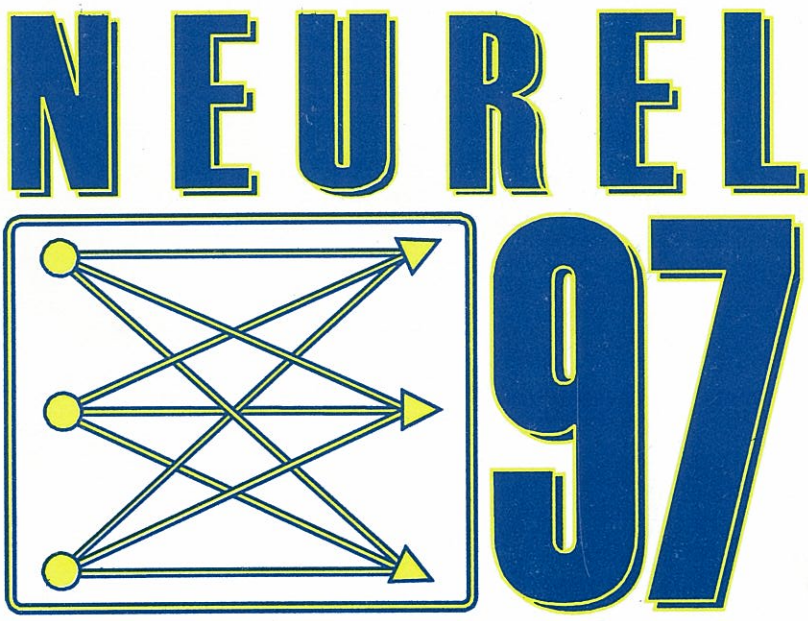
4th Seminar on Neural Network Applications in Electrical Engineering



PROCEEDINGS

September 8-9, 1997

Faculty of Electrical Engineering, University of Belgrade

Organized by Faculty of Electrical Engineering - University of Belgrade
in cooperation with Yugoslav IEEE Section - CAS-SP Joint Chair
Circuits, Systems and Signal Processing Section and Artificial Intelligence Section of Yugoslav Society ETRAN

Supported by Federal Ministry of Development, Science and Environment and Serbian Ministry of Science and Technology

Sponsored by IEEE Signal Processing Society

NEUREL 97 Proceedings of 4th Seminar on Neural Network Applications in Electrical Engineering

NEUREL-97 PROGRAM/SESSIONS

Monday, 8. 9.'97. 11,00 – 13,30

Session 1	General Principles of Neural Networks	
Chairman	Andreas Stafylopatis, Milan Milosavljević	
S. 1-1	Srđan Stanković and M. Milosavljević **Neural networks in nonlinear black-box modeling: System identification and time-series analzsis**	*Invited paper*
S. 1-2	Paul Cristea **Neural networks as tools for knowledge eliciting**	*Invited paper*
S. 1-3	G. Papageorgiou, A. Likas, A. Stafylopatis **A parameter perturbation scheme for effective exploration of Hopfield state-space**	*Invited paper*
S. 1-4	Zlatko Zografski **Neural and memory based methods for nonlinear signal processing**	*Invited paper*
S. 1-5	Vladislav Tadić and Srđan Stanković **Convergence of the normaliyed stohastic gradient algorithm applied to learning in feedforward neural networks**	
S. 1-6	Senik H. Mkrtichyan **The past and present of neurocomputers**	
S. 1-7	M. Dimitrova, M. Hubert, S. Ossikovska **Modular neural networks for recognition of unique patternes**	

Monday, 8. 9.'97. 13,30 – 15,00

Session 2	Posters 1
Chairman	Senik H. Mkrtchian, Dejan Raković
S. 2-1	Srđan Milenković, Vladimir Rrisojević, Vančo Litovski **Noise based gradient descent learning**
S. 2-2	Senik H. Mkrtichyan, Aram S.Mkrtichyan, Anry F. Lazaryan, Karen M. Nazaryan, Vardan E. Jahangiryan, Alla D. Chosrovyan **Binary neural triggers for digital neurocomputers**
S. 2-3	Senik H. Mkrtichyan, Anri F. Lazaryan **Learning algorithm of neuron and its hardware implementation**
S. 2-4	Ivan Krstić, Branimir Reljin, Pavle Kostić, **Solving direct linear problems of heat conduction by analogy with celular neural networks**
S. 2-5	Slavica Jonić, Dejan Popović **Rule-based controller for locomotion-use of radial basis function ANN**
S. 2-6	Nada Ratković, Aleksandra Vučković, Srđan Stanković **Neural networks in minimum variance techniques for nonlinear control**
S. 2-7	Dejan Veljković, Dejan Raković **Error probability versus signal to noise ratio of an analog feedback associative memory**
S. 2-8	Vladeta Jocić and Srđan Stanković **Recognition of the heart sounds and murmburs by multi-layered neural networks**
S. 2-9	Draško Furundžić **Using neural network for principal weights determination**

Tuesday, 9. 9.'97. 11,30 – 13,00

Session 5	Posters 2
Chairman	Zlatko Zografski, Zoran Bojković
S. 5-1	Dragutin Šević, Radovan Antanasijević, Jagoš Purić, Aleksandar Zarić, Aleksandar Kovačević **Analysis of "plasma focus" electromagnetic signals using neural networks**
S. 5-2	Zlatko Zografski, Gordana Bogoeva-Gaceva, Vladimir Petrusevski **A hybrid neural network model for analysis of spectra**
S. 5-3	Igor Radojičić, Milorad Božić **ANFIS GPC-based controller for systems with hysteresis**
S. 5-4	Jasna Rađenović – Mrčarica, Željko Mrčarica, Vančo Litovski, Helmut Detter **Application of neural network in mycrosystem assembly**
S. 5-5	Zoran S. Dobrosavljević, Miroslav L. Dukić **Broadband interference supression in BPSK communication system based on the neural network**
S. 5-6	Marija Bojović, Nenad Pavlović, Milan D. Savić **Some experiments with recognition of unconstrained handwritten numerals using neural networks**
S. 5-7	Irini Reljin **Neural network based low cell loss rate scheduler**
S. 5-8	Ž. Đurović, B. Kovačević **An adaptive Kalman filtering using reccurent neural networks**
S. 5-9	Živko Murar, Ilija Latinović **Dynamic back propagation for system identification and control**

Tuesday, 9. 9.'97. 13,00 – 15,00

Session 6	Biological Aspects of Neural Networks
Chairman	Paul Cristea, Dejan Popović
S. 6-1	Dejan Popović and Slavica Jonić *Invited paper* **Identification of one-dimensional biomedical signals: Supervised machine learning techniques**
S. 6-2	V. Ilchev, I. Baruch, S. Koynov, Z. Ilcheva **A neurophysiological model of the retina with neural networks**
S. 6-3	Predrag B. Bakić, Dragana P. Brzaković *Invited paper* **Application of neural networks in computer aided diagnosis of breast cancer**
S. 6-4	Duško Katić **A connections learning control and classification approach for robotic contact tasks**
S. 6-5	O. Manolov, M. Milanova **Path generation of mobile robot using neural networks and sensory data fussion**
S. 6-6	Radmila Maksimović, Mirjana Popović **A neuro fuzzy network to diagnose reaching abilities of tetraplegics**
S. 6-7	Predrag Popović **The principle of epigenesis as a recency in advanced neurobiology and its relevance for artificial neural netvorks**

Tuesday, 9. 9.'97. 16,00 – 17,00

Session 7	Round Table: Trends in Neurocomputing
	Rajko Tomović, Ieroham Baruch, Milan Milosavljević, Senik Mkrtchian, Dejan Popović, Branimir Reljin, Srdjan Stankovic, Sorina Zahan, Zlatko Zografski