Forecasting with Artificial Neural Networks

CALL FOR PAPERS

Special Sessions on "Forecasting with Artificial Neural Networks"
http://www.neural-forecasting.com/conferences/isf05/isf05_cfp.htm

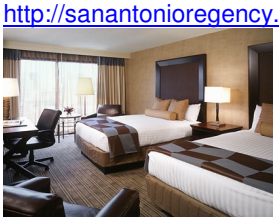
@ The 25th International Symposium on Forecasting 2005
Hyatt Regency Hotel, San Antonio, Texas, USA
June 12-15, 2005

Dear Researchers & Practitioners!
You are invited to submit an abstract related to the theory and practice of forecasting with artificial neural networks to the 2005 International Symposium of Forecasting. All accepted & presented abstracts will be invited to submit full papers to be considered for publication. Please find instructions below.

GENERAL TRACK CFP "NN & FORECASTING"	We invite all abstracts related to the theory and practice of forecasting with neural networks, describing new techniques, methods and models and novel applications. We especially encourage submissions from practitioners documenting successful AND unsuccessful novel applications of NN in practice.	

TOPICS OF INTEREST	**Methods (include but are not limited to):**
	▪ artificial neural networks (all paradigms)
	  ○ feedforward & recurrent
	  ○ single methods & ensembles
	▪ support vector machines & regression
	▪ NN related & hybrid soft computing methods
		Applications (include but are not limited to):
		▪ business forecasting & demand planning
		▪ time series prediction & analysis
		▪ predictive classification & data mining

SPECIAL TRACK CFP "NN FORECASTING COMPETITION"	In addition to the general track, we invite submissions to a "forecasting competition" to derive principles of neural forecasting.The silver anniversary conference theme of "25 years of progress in forecasting" calls for a reflection on the progress in forecasting with neural networks. Despite 15+ years of research and 2000+ publications on neural forecasting since their resurgence in 1986, they have not been established as a valid and reliable forecasting method in corporate practices. This may in part be contributed to the heuristic and often ad-hoc modelling process to determine the large degrees of freedom, questioning the validity, reliability and robustness of their application. Despite research by Remus & O'Connor (2001) little knowledge is disseminated on sound "principles" to assure valid and reliable modelling of neural networks for forecasting, considering the ever increasing number of neural network paradigms, architectures and extensions to existing models. Different research groups and application domains favour certain modelling paradigms, preferring specific data pre-processing techniques (differencing, deseasonalising, outlier correction or not), data sampling activation functions, rules to guide the number of hidden nodes, training algorithms and parameters etc. However, the motivation for these decisions – derived from objective modelling recommendations, internal best practices or a subjective, heuristic and iterative modelling process - is rarely documented in publications. In addition, original research often focuses on the publication of novel differences to existing knowledge or practice, instead of the consolidation of accepted heuristic methodologies. Therefore we seek to encourage the dissemination of implicit knowledge through demonstrations of current "best practices" through a forecasting competition on two univariate time series. The well known airline passenger dataset contains a single trend-seasonal time series and allows the demonstration of the basic modelling issues of time series prediction with neural networks. As it has been analysed in depth in the forecasting and the neural network domain, leading to early and highly cited publications, it may serve as a benchmark and allow reflection on the progress in the modelling process over the past years. The second dataset is an unknown dataset, which serves to evaluate the consistency of the modelling approach across different datasets. Additional information, datasets and the questionnaire will be available on http://www.neural-forecasting.com/conferences/isf05/isf05_cfp.htm from 01/2005. Abstracts, presentations and papers should document valid and reliable experiments, documenting implicit and explicit design decisions, iterative manual calculations within and outside the framework of neural network modelling (e.g. preliminary visual or autocorrelation analysis etc.), retracing from "dead ends" and informal knowledge acquired through experience. A detailed questionnaire to document modelling decisions will be circulated to compare different modelling approaches in a preliminary framework. Each approach will be presented with a focus on the modelling process instead of the out-of-sample performance. The session presentations will be followed by a round table / panel discussion of experts from research, practice and leading neural network software providers for reflection. The session's objective is not to determine a dominant modelling process or method (as in a forecasting competition), but to highlight and document implicit as well as explicit decisions and undocumented knowledge guiding the heuristic modelling process, analysing similarities between different approaches of	

	researchers in order to derive robust practices and determine common pitfalls. The selection of two well-known datasets seeks to limit the initial effort in simulation and documentation for research and practitioner teams prior to writing a full paper. We hope to engage the community to discuss and develop "forecasting principles" for NN modelling, valuable for consecutive research and future forecasting competitions.
ABSTRACT SUBMISSION	Prospective authors are invited to submit their abstract (limit of 200 words, no mathematics, no references, a blank line between paragraphs) electronically on the conference website www.isf2005.org following the guidelines posted there. The review process will contain at least two independent reviewers.
PRESENTATION	Formal presentation time will be announced, aiming at 20 minutes followed by 5 minutes Q&A.
IMPORTANT DATES	February 28th, 2005 Abstracts due March 31st, 2005 Notification of acceptance June 21-24, 2005 5th International Symposium on Forecasting 2005
SPECIAL SESSION INFORMATION	Organisation by: Lancaster University, Dept. of Management Science www.lums.lancs.ac.uk Sven F. Crone Centre for Forecasting
CONFERENCE INFORMATION	The 25th International Symposium, organised annually by the International Institute of Forecasting, is the premier conference for researchers and practitioners in forecasting. Last years conference in Sydney attracted over 360 international researchers and practitioners, presenting over 260 papers. The 2005 event is composed of 26 major session - attendees will have full access to all sessions, tracks & tutorials.
NEURAL NETWORK TUTORIAL	Preceding the conference, a tutorial on "Forecasting with Artificial Neural Networks" will be held by H.G. Zimmermann, Siemens Research. Details may be found at www.isf2005.org
CONFERENCE FEES	Non-students fee: $500 (very early registration, prices increase!) Full-time student fee: $250 (very early registration, prices increase!) The fee includes: Welcoming reception, lunch, coffee-breaks, social events: river boat ride to a reception at the Southwest Arts and Crafts Centre, Texas Barbeque conference dinner at the Don Strange Ranch located in the hill country north of San Antonio, farewell reception, a one-year subscription to the International Journal of Forecasting and access to all sessions of the conference.
CONFERENCES VENUE	The conferences will be held in the Hyatt Regency San Antonio, which completed a US$16 million renovation in 09/2004. Located on the banks of San Antonio's renowned Riverwalk, across from the Alamo, with stunning views of old San Antonio. This 650 room premier convention hotel features a 16 story garden atrium built over an extension of the San Antonio River, which flows through the lobby. The room rate for conference attendees is US$169.- for single/double or $179.- up to quad per room per night. http://sanantonioregency.hyatt.com/property/hotelinfo/about/index.jhtml    
SAN ANTONIO INFO	San Antonio, Texas, is the eighth largest city in the USA attracting over 20 million visitors per year. The city has always been a crossroads and a meeting place. Sounds and flavours of Native Americans, Old Mexico, the Wild West and the Deep South mingle and merge. Offering historical sites, Texas-size entertainment (Sea World, 6 Flags), culture and sports the city is attractive for everyone. See for yourself: http://www.sanantoniocvb.com/ - http://heartofsanantonio.com 

If you have any questions regarding the special session or the conference please do no hesitate to contact the session organiser: s.crone@neural-forecasting.com

To receive updates, please indicate your interest through an informal email!

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