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THE 32ND INTERNATIONAL SYMPOSIUM ON FORECASTING

Introduction

I am a Master's student of Østfold University College, Halden (http://hiof.no/). I got the opportunity to attend the 32nd International Symposium on forecasting (http://www.forecasters.org/isf/index.html) held from 24th June to 27th June in Boston, USA at Boston Marriott Copley Place hotel.

Figure 1 Marriott Copley Place Hotel, the Venue of the Symposium

Basically, the International Symposium on Forecasting (ISF) is an annual forecasting conference organized by the International Institute of Forecasters (http://www.forecasters.org/). Such events have been an arena for learning, networking and presenting the latest results in the world of forecasting through a combination of keynote speaker presentations, academic sessions and workshops participated by the forecasting researchers, practitioners and students all over the world. My ongoing master's thesis, entitled 'Load Forecasting in a Smart Grid Oriented building', is chiefly about the short term energy forecasting in my school building. So, in this conference, I was looking forward to explore the latest trend in forecasting to get more insight in the domain of forecasting.

Conference Structure and Topics Coverage

The theme of the conference was 'Best Research, Best Practice' which indicated the presence of a lot of research works in wide range of forecasting. However, the conference also included keynote speakers, featured speakers and dedicated workshops. Furthermore, there were different programs and software showcases for practitioners under the title of 'practitioner track'.

There were four workshops organized with following themes (http://www.forecasters.org/isf/workshops.html) -

1. Making effective use of management judgment in forecasting
2. Forecasting to meet demand
3. Forecasting mastery
4. Improving forecast with simulation

The paper presentation session was structured into following topics –

1. Climate and Environment
2. Demography
3. Economics
4. Energy
5. Finance
6. Forecasting Methods
7. Judgmental Forecasting
8. Software and Support Systems
9. Statistical models
10. Telecommunication and ICT
11. Others

My Involvement

The first day of the conference was entirely dedicated to forecasting workshops. Among four workshops, I attended two of them namely, 'Forecasting to meet demand' and 'Forecasting mastery'. The first workshop was focused in more wide aspects of forecasting spotlighting the demand forecasting. It was conducted by Roland Martin who is a senior forecasting analyst from Germany. He covered wide aspect of forecasting beginning from data cleaning to setting up a forecasting project. Although most of his examples were related to logistics, they were easy to relate other fields like energy prediction because they share many common aspects like handling uncertainty, quality measures, software selection, etc. The second workshop was about mastering forecasting process. It was conducted by James Hoover, who is a forecasting veteran from Accenture, USA. He explained in detail what makes a forecasting master a clear winner ahead of typical bench-markers and average predictors. Taking the case study of supply chain management, he systematically described all those aspects that a company needs to consider in order get the benefits from forecasters. So, this workshop was more business oriented than technology related. However, he made some key points regarding the practical aspects of forecasting.

The next three days were quite occupied with key note speakers, featured speakers and paper presentations. All those days began with the superb keynote sessions. As they were provided by forecasting gurus like Robin Hogarth, Phil Dolci and James H Stock, I attended all of them. Their speeches were perfect blend of their long forecasting experience with the state of the art of forecasting.

Since I was looking forward to attend all those energy related paper presentations, I did not miss any of them. They were chiefly divided into energy market simulation, load forecasting and price forecasting. Most of the works were purely based on statistical approach and only few of them were based on machine learning techniques like neural networks and support vector machines. Nevertheless, they came with higher forecasting accuracy which gave me a good surprise. Besides them, I also witnessed few other paper presentations related to time series analysis and statistical forecasting methods.

Interviews

I met many participants and forecasting experts during the conference. Furthermore, we exchanged we our email address for further association in similar works. Presented here are two major interviews that I had made during the conference.

Interview I

I found the workshop of Roland very effective, concise and covering wide aspects of forecasting. So, I interacted with him after the workshop session. I approached him with a grateful appreciation about the workshop. Then, I asked him if he had tried any of the machine learning techniques. He replied that he had not used any of them because his background is from economics and logistics rather than computer science. Having seen a long list statistical based paper presentations on forecasting in the broucher of the conference, I asked him why are there so many works on statistical based approaches but much fewer on machine learning approaches. He replied that statistical based approaches are quite transparent and well-supported by enterprise software like SAS while machine learning tools are more opaque and in many cases act as black box. He further clarified that such approaches are still in research

phases and have less software support and requires higher knowledge of informatics rather than mere mathematics. Next important question I asked was about the possibility of making a combined approach of statistical based and machine learning based approach to get the best of both worlds. He replied very positively and told me that it will be very interesting to try such hybrid approach. Then, we exchanged our contact details and agreed to work and get updated in similar work in future.

Interview II

One of the most effective and relevant research works on spot price forecasting was presented by Fernan Alonso Villa Garzon, a PhD candidate from National University of Colombia. Although his work was on spot price prediction, it was not difficult for me to relate it with energy prediction. Moreover, he used purely machine learning approach (Cascade correlation neural network) and compared the results with statistical approach (ARIMA). He found the former results better than latter ones and concluded that such networks are better in capturing the intrinsic dynamics of the time series. As his presentation was getting longer than allocated time, there was no more time to ask questions during the presentation session. So, I asked few questions after the session. My first question was related to the use of weather parameters for forecasting. As spot price forecasting, similar to energy forecasting, is much determined by weather parameters like temperature, humidity, rainfall, etc, I asked him if he had used any of these parameters as input attributes for forecasting or not. He replied that currently, he had not used any of such parameters but he would like to do so in his future works. Then, I asked him if his approach is comparable to moving window approach for neural network. He replied that it is comparable to moving window but his approach is much more than that because he had made more consideration for regularization with ridged regression and weight decay technique. Also, I asked him what sizes of moving window he tried. He replied that he has tried several sizes like 6, 16 and 20. Then, I asked him which of the software they used for the research work, chiefly for the neural network. He replied that he and his team have used the open source software tool R for it. Then, I shared my experience of energy forecasting and my master's thesis. He was quite eager to get more updates about my work. So, we exchanged our contact details for further association.

Conclusion

I was very inspired by the conference and the environment of Boston. Having visited all top major universities in Boston (Harvard, MIT, Northeastern), I got a touch of good academic aroma in Boston. Being situated in descent location, provided with good climate and inhabited by good people, I was not surprised to discover it being called the 'Athens of America'. I feel very privileged to be there and having visited there. For all those intellectual experiences in Boston through the attendance of this conference, I would like to thank the NUUG foundation for providing me the precious opportunity. Lastly, I would like to conclude that my visit in Boston was very fruitful in providing me with more energy and more inspiration for my future works in the domain of forecasting.