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Notice for the PhD Viva Voce Examination

Mr Anshul Saxena (Registration Number: 1980175), PhD scholar at the School of Business and Management, CHRIST (Deemed to be University), Pune Lavasa Campus will defend his PhD thesis at the public viva-voce examination on Thursday, 18 May 2023 at 1.00 pm in the Boardroom, Ground Floor, Central Block, CHRIST (Deemed to be University), Pune Lavasa Campus, Pune - 412112.

Title of the Thesis	**:**	**Modelling an Optimal Meta-Learning Framework to Hedge Dynamic Commodity Price**
Discipline	**:**	**Management**
External Examiner (Outside Maharashtra)	**:**	**Dr Sunil Vakayil** Associate Professor Loyola Institute of Business Administration Sterling Road, Nungambakkam Chennai, Tamil Nadu
External Examiner (Within Maharashtra)	**:**	**Dr Mandaar Pande** Professor Symbiosis Centre for Information Technology Rajiv Gandhi Infotech Park, Hinjewadi, Phase 1 Pune, Maharashtra
Supervisor	**:**	**Dr Jayant Mahajan** Associate Professor School of Business and Management. CHRIST (Deemed to be University) Pune Lavasa Campus Pune – 412112 Maharashtra

The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar

Place: Bengaluru
Date: 11 May 2023

ABSTRACT

Commodity markets play a critical role in the global economy by providing a platform for the trade of raw materials and agricultural products. One of the most actively traded commodities is crude oil, which is vital for meeting 93% of energy needs for transportation sector globally. It is projected that crude oil will continue to be an important source of energy in the upcoming years. Consequently, fluctuations in crude oil prices have a significant impact on the economies of scale across the world. In order to predict the crude oil prices and its fluctuation, it is important to have an accurate forecasting framework.

An Artificial intelligence enabled agile commodity price forecasting framework, powered by a Meta Learning based ETR+GBR blended algorithm, is an advanced and useful tool for forecasting commodity prices. This method has several advantages over traditional forecasting methods and can provide more accurate predictions. The AI-enabled framework can learn from large amounts of data, adapt to changing market conditions, and be updated in real-time with new data. However, it is important to keep in mind that AI-based models have limitations and should be used in conjunction with other methods such as economic analysis and market research.

Keywords: *Commodity markets, Crude oil, Energy needs, Price discovery, Volatility, Forecasting, Artificial intelligence, Meta Learning*

Publications:

1. **Saxena, A.**, Vijay Bhagat, V., & Tamang, A. (2021). Stock Market Trend Analysis on Indian Financial News Headlines with Natural Language Processing. *2021 Asian Conference on Innovation in Technology*, ASIANCON 2021. https://doi.org/10.1109/ASIANCON51346.2021.9544965
2. **Saxena, A.,** Bhagat, V., & Mahajan, J. (2022). Reading behind the tweets: A sentiment Clustering Approach. *2022 International Conference on Advanced Computing Technologies and Applications, ICACTA 2022*. https://doi.org/10.1109/ICACTA54488.2022.9753107
3. Bhagat V., Sharma, M., & **Saxena A.** (2022). Modelling the nexus of macro-economic variables with WTI Crude Oil Price: A Machine Learning Approach. *2022 IEEE Region 10 Symposium, TENSYMP 2022*. https://doi.org/10.1109/TENSYMP54529.2022.9864544
4. **Saxena A,** Bhagat V.,Mahajan J.,Paul B., & Shubha MV, The intellectual structure of application of Artificial Intelligence in forecasting methods: A literature review using bibliometric analysis, AI for Forecasting :Tools and Techniques" series titled 'Contemporary Studies in Economic and Financial Analysis, *CRC Press(Taylor and Francis Group*) (In Print).