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THESIS

To obtain the diploma of Master
Field: **Computer Science**
Specialty: **Ingénierie des Systèmes Informatiques (ISI)**

Theme

Methods for Gold Price Prediction Regarding Pandemics and News

Presented by: BELAMBRI Samy

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In front of the jury composed of:

Mr. KESKES Nabil	President
Mr. KHALDI Belkacem	Examiner
Dr. Amina BELALIA	Supervisor
Dr. Badia KLOUCHE	Co-Supervisor

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Dedication

I dedicate my master's thesis to my wonderful parents, *Dad* and *Mom*, for their unwavering love, tireless support, and invaluable guidance throughout my life. You have been my pillars of strength, and I am forever grateful for your boundless encouragement.

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Abstract

Forecasting the price of gold on the stock market is a difficult assignment that can have substantial repercussions for investors and experts of financial markets. The accuracy and efficiency of financial time series forecasting has seen a revolutionary change in recent years as a result of the incorporation of machine learning (ML), deep learning (DL), sentiment analysis, and a wide range of other elements. This research seeks to give a thorough and state-of-the-art examination of stock market price predictions by combining a variety of methodologies. These methodologies include ML and DL approaches, sentiment analysis, and external events such as pandemics, conflicts, and news.

Keywords— Deep Learning, Machine Learning, Artificial Intelligence, Time Series, Technical Analysis, Financial Forecasting, LSTM, BiLSTM, CNN , Stock market , Gold price , Sentiment analysis