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A Modified Neural Network Model for Predicting the Crude Oil Price

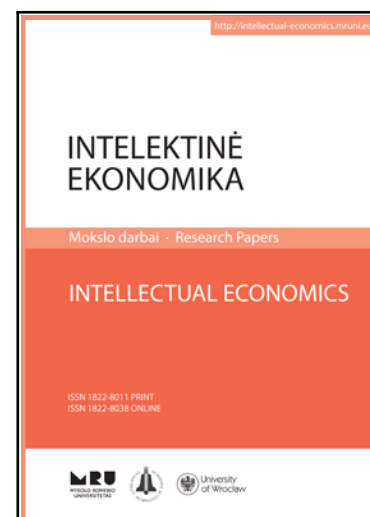
Mohammad Reza Mahdiani

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## A Modified Neural Network Model for Predicting the Crude Oil Price

Mohammad Reza Mahdiani<sup>1\*</sup>

<sup>1</sup> Faculty of Petroleum Engineering, Amirkabir University of Technology (Tehran Polytechnic), Hafez Avenue, Tehran, Iran

### Abstract

Predicting the crude oil price is very interesting and prominent for all governments and different companies. Here a neural network model has been modified, in a way that a genetic algorithm optimizes its parameters during its run. This model is able to predict the future price of crude oil very accurately. Comparing the model of this study with the pure neural network in predicting both daily and monthly crude oil prices confirmed its greater performance, especially in situation of small number of input data for training or the great changes of variables.

Keywords: artificial neural network, genetic algorithm, modeling

### 1. Introduction

Predicting the crude oil price is very important in different economic, political and industrial areas, both for crude oil importer and exporter countries. Oil prices can shock the market and many projects in different countries<sup>1,2</sup>.

Finding a model for predicting different economic and engineering parameters is a very common method and this is not an exception in oil price prediction<sup>3,4,5</sup>. There are various works that have attempted to predict the oil price. The most important of them will be reviewed here. In 2007, Chen<sup>3</sup> compared the oil price with oil exchange rates to find a relationship between them for

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\* Corresponding Author: mahdiani@aut.ac.ir

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