# Predictive Monitoring of Business Processes: Time Series Forecasting

*Chen Zitok 038746632, Advisor: Prof. Pnina Soffer*

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**ABSTRACT** **Process mining is a method for analysing business processes using event logs generated from information systems.** Predictive monitoring is a subcategory in process mining that aims at predicting different aspects of a running case and there could be different aspects to predict. This paper presents two machine learning models for predicting time series data of a chip design long term project, in a semi-conductor company. The first model goal is to predict the completion of a design process of the chip (will it be as scheduled or delayed), based on two other separate parameters. The second model takes one of the predictive parameters from the first model, incoming bugs rate, and tries to predict it individually based on its historical data. The accuracy level, which was evaluated using statistical measures such as MSE and $R^2$, gave a relatively low accuracy level, but considering it is a multi variate model, with time series, and the fact the data generated from the logs turned out to be non-stationary, can lead to the thought that there is not a valid way to measure the accuracy level of such complex models, and in order to measure and evaluate it properly some more work needs to be done on this field, or with this complexity.