



SDI Review Form 1.6

Journal Name:	Current Journal of Applied Science and Technology
Manuscript Number:	Ms_CJAST_42730
Title of the Manuscript:	A Machine Learning Algorithm Based on Inverse Problems for Cyber Anomaly Detection
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	In the article reviewed, titled " A Machine Learning Algorithm Based on Inverse Problems for Cyber Anomaly Detection" author(s) modeled anomaly detection system, Inverse Machine Learning Algorithm (IMLA), based on an inverse model approach with Riesz kernel and applying software system development concepts at each phase. The noticed research can be assumed as showing the medium level as well as on, the whole proper searching methodology and description of presented solution. The structure of content of the article along with the results presented prove rather satisfactory knowledge and competences of the author(s), as far as the described kind of science is concerned. The language used in hereby presentation may be described as requiring scarce corrections. At this point it ought to be stated that after a thorough analysis of the assessed work, some shortcomings are to be found.	Thank you for the opportunity to revise the manuscript. Below I summarize my responses to the comments. I believe that all of the comments have been addressed in a way that you would find satisfactory. I thank you very much for their detailed and thoughtful critiques. The manuscript has been greatly improved as a result of your effort. Our point-by-point responses to your comments are detailed here. Responses highlighted in yellow in the manuscript.
Minor REVISION comments	I recommend to weak accept the reviewed article, considering the detailed corrections listed below: - 1. the description of content presented in section 3 requires improvement of mathematical methodology for the sake of more diligent presentation of achieved outcomes - 2. the description of content presented requires more thorough description - 3. the scientific aspect as well as the novelty of solutions need to be enhanced and emphasized in a more distinctive manner - 4. novelty of presented conclusions ought to be more distinguish - 5. the presented figures need to be more legible (i.e. the size of a type should larger) - 6. slightly too short and too general conclusions - 7. editorial standards of references should be corrected - 8. editorial level leaves a bit to be desired, punctuation shortcomings are to be noticed (especially in mathematical formulas)	1. For a detailed explanation of mathematical methodology, we refer reader to "A problem of Data Mining in E-Commerce", the author's own paper reference #14, and it is explained and modified as a base to for the proposed model IMLA. This is inserted to the manuscript and highlighted in yellow. 2, 3, and 4. . First of all, please know that I appreciate very much your <i>suggestions</i> and advices. These are great suggestions and I was gladly surprised to see this since my colleague and I are currently working on it as stated in the conclusion section of the paper. This work is by no means exhaustive of the method discussed here. We recognize that improvements have to be done both on the algorithm (different regularizers must be investigated) and the applications. More detailed statistical analysis is needed to improve the effectiveness of the model in general. Further, the answer to exactly how sensitive the method is to moderate amounts of noise should be investigated. Also, the answer to which data reduction methods in the preprocessing needs to be used should be investigated. We believe that, to enhance the performance, it is possible to modify the suggested method and devise a scheme using k-folds cross-validation on different number of folds, using ensemble models, etc. One has to make further analysis not only on how to improve the efficiency of the proposed model, but also on how to take advantage of parallel and distributed computing for detecting anomalies. With this enhancements, we hope to improve the model in the future work. Overall, these results motivate further research of additional studies of the proposed model to detect anomalies. Therefore I could not see how to add these without unduly complicating the present paper. As of now, we are working on all that's suggested, but I feel that it represents more of a second, follow-up paper. The goal of this study is thus to better understand how well the proposed model works. These suggestion are added to the conclusion part of the paper as a future work. Thank you very much for your great suggestions. 5. The resolution and the format of the figures have been improved. 6. All reviewer's comments are incorporated to the manuscript. All section



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		including “Abstract” and “Concluding Remarks” has been modified. 7. We, now, have editorial standards of references required by the “Current Journal of Applied Sciences and Technology” in the manuscript as highlighted in yellow. 8. Paper has been proofread multiple times by colleagues and the necessary changes have been made. Thank you for your valuable critiques.
<u>Optional/General</u> comments	The reviewed article shows rather sufficient substantive level. Presented contents along with experiments results can be described as satisfactorily original. Hence, I recommend to accept the reviewed article, however the consideration of indicated	