

E-PORTFOLIO

COMPLILATION OF ACADEMIC WORKS

ITC C506-302I
ITE ELECTIVE 3
Final Deliverable

Shan Hiro Rosario



EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

PRELIMS

ACTIVITY

KNN

PT-P2 (Implementing kNN based Prediction Models)

Due

Jan 27 by 10:30am

Points

0

Submitting

a file upload

File Types

ipynb and docx

Available

Jan 20 at 12am - Jan 27 at 10:30am

This assignment was locked Jan 27 at 10:30am.

No additional details were added for this assignment.

Previous

Next

Submission

✓ Submitted!

Jan 26 at 10:19pm

[Submission Details](#)

[Download PT-P2-Rosario_ShanHiro.docx](#)

[Download PT_P2_Rosario_ShanHiro.ipynb](#)

Grade: 80 (0 pts possible)

Graded Anonymously: no

Assigned Peer Reviews

✓ Anonymous User

✓ Anonymous User

✓ Anonymous User

Comments

Hey Shan Hiro,

I think your report on using K-Nearest Neighbors (KNN) to classify iris species is really well done! I love how you explained the process clearly and connected it to real-life examples like crime prevention and public health. It made the whole topic feel more interesting and useful. The way you broke down the steps of using Python, especially with tools like scikit-learn and Matplotlib, made it easy to follow. I also liked how you tested different values for the `n_neighbors` parameter and showed how it affected accuracy. It's clear you put a lot of thought into this. If there's one thing I'd

Required Peer Review 1

Anonymous Student

Required Peer Review 2

Anonymous Student

Required Peer Review 3

Anonymous Student

■ KNN ACTIVITY AND PEER REVIEW



ELECTIVE PORTFOLIO

- WRITTEN WORKS
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- REFLECTION

PRELIMS

ACTIVITY

LINEAR REGRESSION

PT-P3 (Implementing Simple and Multiple Linear Regression)

Due Feb 17 by 10:30am Points 0 Submitting a file upload File Types ipynb and docx Available Feb 6 at 12am - Feb 17 at 10:30am

This assignment was locked Feb 17 at 10:30am.
No additional details were added for this assignment.

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Submission

✓ Submitted!

Feb 15 at 7:14pm

[Submission Details](#)

[Download PT-P3-](#)

[Rosario_ShanHiro.docx](#)

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[PT_P3_Simple_Multiple_Regressio](#)

Grade: 80 (0 pts possible)

Graded Anonymously: no

Assigned Peer Reviews

✓ Anonymous User

✓ Anonymous User

✓ Anonymous User

Comments

Good day, Shan! I hope you are doing well. I am glad to be one of your peer reviewers. I appreciate the opportunity to review your work and learn from your approach to data preprocessing and predictive modeling. Your research provides a structured analysis of data preprocessing techniques and regression modeling using the DMV-CAIR Dataset. This peer review will highlight the strengths, weaknesses, and areas for improvement in your study.

One of the most commendable aspects of your study is the well-structured organization of your paper. Upon reviewing your work, I found it easy to



PT-P3 (Implementing Simple and Multiple Linear Regression)

Feb 17 | 0 pts



Required Peer Review 1

Anonymous Student



Required Peer Review 2

Anonymous Student



Required Peer Review 3

Anonymous Student

■ MLR DOCUMENTATION AND PEER REVIEW

EPORTFOLIO



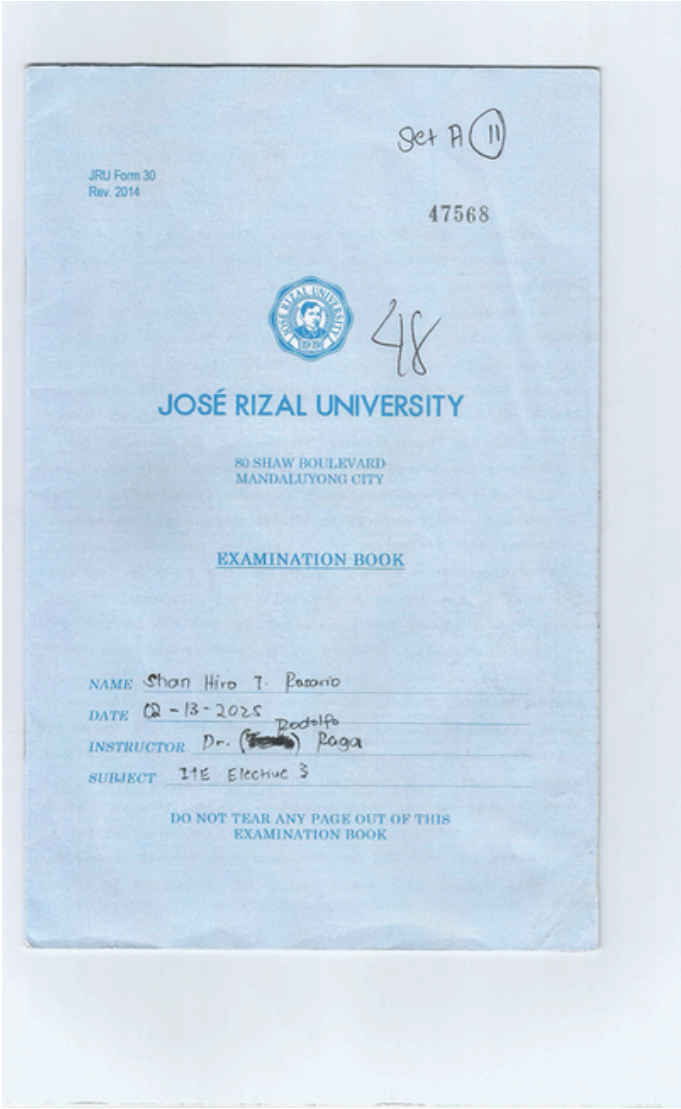
ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

PRELIMS

QUIZ

QUIZ



▪ ALL WERE DONE F2F

EPORTFOLIO



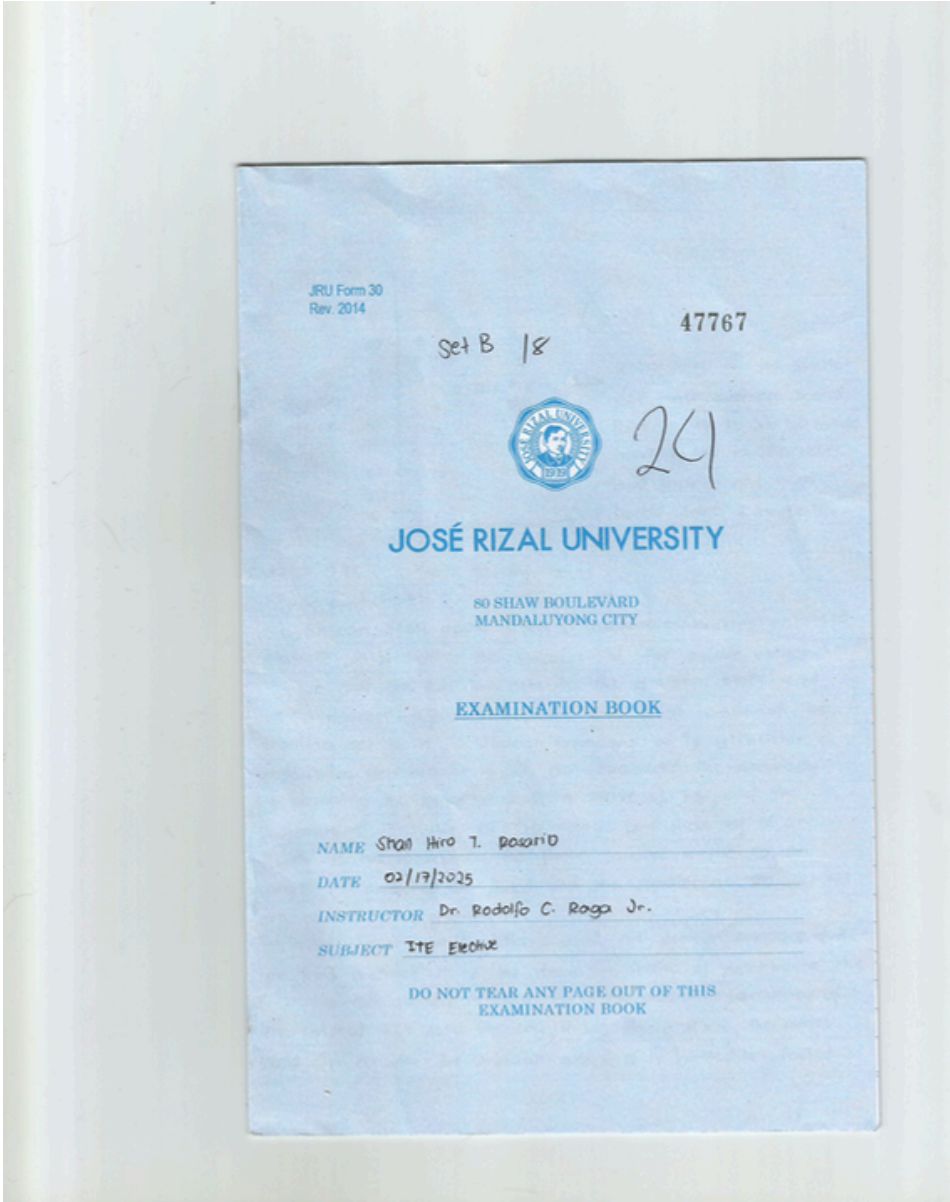
ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

PRELIMS

EXAM

EXAM



▪ ALL WERE DONE F2F

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
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REFLECTION

MACHINE LEARNING

The introduction of machine learning gave profound insights regarding the future career possibilities of which are data analysts, and the practical implementation of the traditional algorithm of multiple linear regression and kNN realizes the path slowly but surely. The foundations of machine learning lies in the understanding of the algorithms themselves, how they work, how they are implemented through the preprocessing of the dataset and training the model without delving too much on the learning of the python code itself because that is for another field of study, by understanding the concepts and theories, we were able to gain specialized knowledge of the study such as the linear coefficients, the k-fold and train-test split, evaluation metrics for regression tasks, confusion matrices and the outlier removal techniques/methods.

▪ ITE ELECTIVE REFLECTION

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

MIDTERMS

ACTIVITY

DECISION TREES

PT-M1 (Comparing Logistic Regression with Decision Tree for Multinomial Classification)

Due Mar 19 by 11:59pm Points 0 Submitting a file upload File Types ipynb, docx, and xlsx Available Mar 10 at 12am - Mar 19 at 11:59pm

This assignment was locked Mar 19 at 11:59pm.
No additional details were added for this assignment.

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Submission

✓ Submitted!

Mar 18 at 8:49pm
[Submission Details](#)
[Download RosarioShanHiro-IEEE.docx](#)
[Download RosarioShanHiro_DT.ipynb](#)
[Download RosarioShanHiro_MLR.ipynb](#)
[Download RosarioShanHiro-LogFile-MLR.xlsx](#)
[Download RosarioShanHiro-LogFile-DT.xlsx](#)

Grade: 85 (0 pts possible)
Graded Anonymously: no

Assigned Peer Reviews


✓ Anonymous User
✓ Anonymous User
✓ Anonymous User


Comments


The first thing I noticed about the IEEE report is its lack of clarity in the abstract. It does not clearly state the problem, methodology, or key findings of the report.


The section on logistic regression requires clarification. The explanation provided is somewhat redundant and unclear. You should elaborate on why Multinomial Logistic Regression was chosen over Binary Logistic Regression and justify the selection of 'sage' as the solver.

In the preprocessing step, you mentioned using train-test split and K-Fold

 **PT-M1 (Comparing Logistic Regression with Decision Tree for Multinomial Classification)**
Mar 19 | 0 pts

➞  **Required Peer Review 1**
Anonymous Student

➞  **Required Peer Review 2**
Anonymous Student

➞  **Required Peer Review 3**
Anonymous Student

- DECISION TREES & LOGISTIC REGRESSION DOCUMENTATION AND PEER REVIEW

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

MIDTERMS

ACTIVITY

PROJECT

PT-M2 Research Proposal Writing and Presentation

Due Mar 27 by 9:30am

Points 0

Submitting a file upload

File Types docx and pptx

Available until Mar 27 at 9:30am

This assignment was locked Mar 27 at 9:30am.

No additional details were added for this assignment.

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Submission

✓ Submitted!

Mar 27 at 1:20am

Submission Details

Download

Rosario_Satumba_Yap_PTM2-ResearchProposal.docx

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RosarioSatumbaYap_PT-M2_ResearchPresentation.pptx

Comments

No Comments

■ PROJECT PROPOSAL

EPORTFOLIO



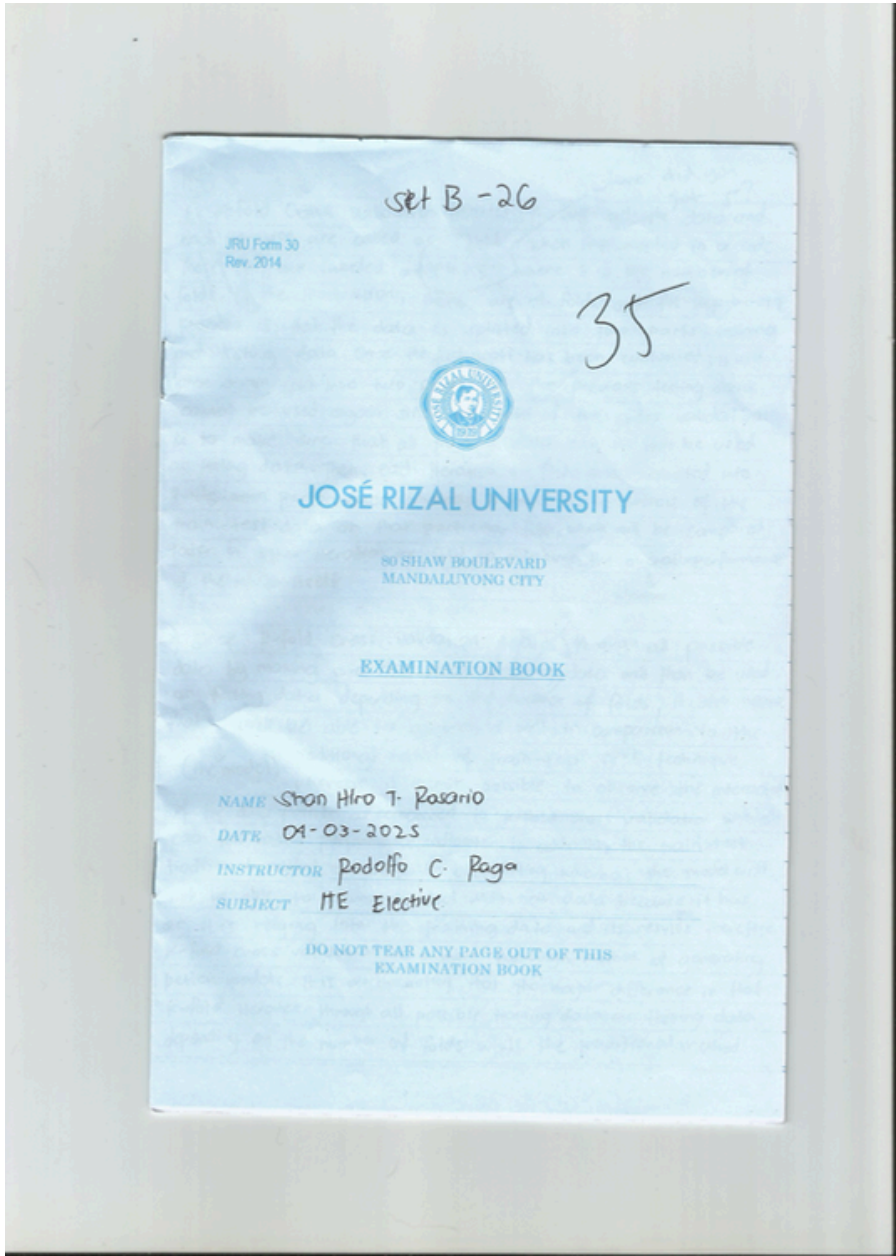
ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

MIDTERMS

EXAM

DELIVERABLE



▪ NO QUIZ ON MIDTERMS

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
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- REFLECTION



REFLECTION

CLASSIFICATION

The midterms mostly had classification tasks by using the algorithms Decision Trees and Logistic regression, along with their respective hyperparameters, preprocessing, confusion matrices, categorical values on the dataset, evaluation metrics such as F1 score, and experimental logs to determine and provide evidence of which model exactly were observed and analyzed to become the best-performing model or fully optimized. A comparison analysis were made on the two algorithms: DT and Logistic regression, while we did not perform any documentations or activities on another algorithm, the Support Vector Machine, we thoroughly studied and reviewed its inner workings such as the vector line, the support vectors that seperates the data points in order to see if the chosen vector line is considered as best fit and so on. This is due to the limited time available to us because of the university week and several holidays. Regardless, classification tasks were mostly different that regression tasks that were done in prelims due tto its binary or multinomial output that determines the result rather than continuous outcomes.

▪ ITE ELECTIVE REFLECTION

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

FINALS

ACTIVITY

ENSEMBLE

PT-F1 : (Ensemble Learning for Prediction Modelling)

Due Apr 21 by 10:30am Points 0 Submitting a file upload File Types ipynb, docx, and.xlsx Available Apr 10 at 12am - Apr 21 at 10:30am

This assignment was locked Apr 21 at 10:30am.
No additional details were added for this assignment.

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Submission

✓ Submitted!

Apr 18 at 10:42pm

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[PT_F1_\(Traditional\)_Rosario_ShankHiro](#)

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[PT_F1_Boosting_Satumba_Lebron.ipynb](#)

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[LogFile-traditional.xlsx](#)

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[Learning\)-Excelerators.docx](#)

Assigned Peer Reviews


✓ Anonymous User

✓ Anonymous User

✓ Anonymous User

Comments

The Excelerators group aims to predict monthly temperatures in the country's cities using ensemble learning. Their target is to mitigate the heatwaves effect by providing better forecasting tools. The paper has clear motivation and Relevance it addresses a real-world problem making it relevant and practical. It has a comprehensive Methodology the shows a strong grasp of preprocessing, model selection and evaluation considering every crucial details. But with these strengths there still some are for improvements like limited dataset timeframe the data that was used was solely from the year 2024, but in the

 **PT-F1 : (Ensemble Learning for Prediction Modelling)**
Apr 21 | 0 pts



Required Peer Review 1
Anonymous Student



Required Peer Review 2
Anonymous Student



Required Peer Review 3
Anonymous Student

- ENSEMBLE LEARNING DOCUMENTATION AND PEER REVIEW

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

FINALS

ACTIVITY

MLP

PT-F2 : MLP Challenge

Due May 2 by 11:30pm Points 0 Submitting a file upload File Types docx, ipynb, xlsx, and csv Available Apr 24 at 12am - May 2 at 11:30pm

This assignment was locked May 2 at 11:30pm.
No additional details were added for this assignment.

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Submission

✓ Submitted!


Apr 30 at 4:04pm
Submission Details
[Download RosarioShanHiro-IEEE-1.docx](#)
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[Download raw_2025_weather_data.csv](#)
[Download raw_2024_weatherdata.csv](#)



Assigned Peer Reviews

✓ Anonymous User
✓ Anonymous User
✓ Anonymous User


Comments

In reviewing this paper on "A Regression Approach on Predicting the Monthly Temperatures in the Philippines using Multi-Layer Perceptron" Mr. Rosario did a good job of making an organized IEEE paper. He first started by defining a relevant and impactful problem, namely that in the Philippines and increasingly in all other islands of the world, temperature forecasting is a crucial arena, to enable accurate temperature forecasting, I find it commendable that the author chose to adopt a data-driven method by using historical temperature data from PAGASA to further authenticate and enhance the study.

 **PT-F2 : MLP Challenge**
May 2 | 0 pts

  **Required Peer Review 1**
Anonymous Student

  **Required Peer Review 2**
Anonymous Student

  **Required Peer Review 3**
Anonymous Student

- MULTI LAYER PERCEPTRON DOCUMENTATION AND PEER REVIEW

EPORTFOLIO



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION

FINALS

■ FINALS ACTIVITY

●

ACTIVITY

REPORT

Final Project Status Report with Evidence

Due

May 8 by 10:30am

Points

0

Submitting

a file upload

File Types

ipynb, docx, xlsx, and pptx

Available

May 7 at 12am - May 8 at 10:30am

This assignment was locked May 8 at 10:30am.

No additional details were added for this assignment.

Previous

Submission

✓ Submitted!

May 7 at 9:26pm

[Submission Details](#)

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[Excellerators_RandomForest_logs.xh](#)

Comments

No Comments



ELECTIVE PORTFOLIO

- WRITTEN WORKS
- PERFORMANCE TASKS
- FINAL EXAMINATION
- REFLECTION



REFLECTION

MACHINE LEARNING

The final term activities were the implementation of the considerably advanced supervised machine learning algorithms such as the ensemble learning in which it combines several algorithms as the baseline models and it will be trained using ensemble methods such as bagging for overfitting and boosting for underfitting, assigning weighted values to them for further observations and analysis. In addition, neural networks were also explored, specifically the Multi layer perceptron, which consists of weights, hidden layers, output layer, activation functions, and a general feedforward network structure in addition to the number of epochs, learning rate and so on. This neural network uses both regression and classification in its neurons to determine the linear and non-linearity relationships of the dataset it was trained on. Although the algorithm is powerful it must be noted that the computer will be stressed, and so the training or execution time is noticeably slower than other algorithms. There was also a status report for the final project in the finals.

▪ FINALS EXAMINATION

Reflection

Throughout the whole semester, i learned the intricacies of machine learning, such as the preprocessing steps, outlier detection, knowledge of supervised learning models, evaluation metrics/techniques, and the experimental logs to observe the best performing model. I believe this is another career path that opened once i graduated, as even with the absence of a computer science degree, the knowledge of applied machine learning would still be relevant in the industry. In addition, the types of exam done through essays or challenging our understanding and logic rather than simulating the traditional multiple choices is a rather unconventional approach that generated benefits as i thoroughly understood and remembered all the necessary foundations needed for supervised machine learning models.

Shan Hiro Rosario

