



KOHAT UNIVERSITY OF SCIENCE & TECHNOLOGY  
INSTITUTE OF COMPUTING

Ref.No 500 KUST/IoC/AS&R/23  
Date: 01.08. 2023.

The Director Advance Studies & Research  
KUST.


Through : Dean, Faculty of Physical and Numerical Sciences

Subject: **Declaration of MS Thesis Result (Final Defence)**

Please refer to the subject matter, **Mr. Qazi Muzzamil Shah**, CS320192019 scholar in MS Computer Science successfully defended his MS viva voce examination on 9<sup>th</sup> June, 2023. Furthermore, changes suggested by the internal and external examiners are also have been incorporated duly countersigned by concerned supervisor's and DGC convener and members.

It is therefore, requested to please declared the result of the mentioned scholar.

Supervisor I: Dr. M. Irfan Uddin   
(Name & Signature with University Name)

Supervisor II: Dr. Muhammad Adnan   
(Name & Signature with University Name)

  
Director  
Institute of Computing



# KOHAT UNIVERSITY OF SCIENCE & TECHNOLOGY

Kohat 26000, Khyber Pakhtunkhwa, Pakistan Ph # 0922-554563-554565, Fax #. 554556

## CERTIFICATE REGARDING INCORPORATION OF OBSERVATIONS BY EXAMINERS

<b>Scholar Name</b>	Qazi Muzzamil Shah
<b>Research Title</b>	Leveraging Deep Neural Network for Selecting Players of Pakistan Super League on the Root of their Enactment prediction.

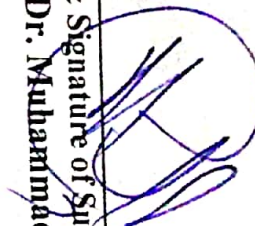
S#	Observations raised by External Examiner	Action Taken	Remarks (If any)
1.	Abstract -Revise Grammatically	Revised and correct grammatically	vi
2.	Revise the sentence: "The five-day tournament (known as a test) came first in the cricket matches before the one-day game was added. In 2003, the England and Wales Cricket Board (ECB) was introduced as Twenty20. (Or T20 cricket). Introduced, and since then five world cups and numerous leagues have been played."	This sentence needs grammatical changes and flow of sentence was not appropriate so its revised accordingly	Page 1
3.	- provide proper location to citations [1] and [2]	Revised and cited properly	Page 1
4.	Provide relevant information and remove unnecessary detail.	Revised and removed accordingly	Page 2
5.	Revise the sentence: "This was the beginning of the cricketers' fan bases spreading to countries where it had not been conceivable before (i.e., English cricketers in Australia or vice versa)."	Revised it giving an example of passion about cricket (i.e., English cricketers in Australia or vice versa)." but it was included in 2 <sup>nd</sup> paragraph, so we removed it.	
6.	- The second paragraph is irrelevant remove it and replace with general relevant information about the cricket	Revised and removed it by general discussion of cricket.	Page 1
7.	Replace the heading: "1.3 Introduction of PSL" with "Pakistan Super League"	Revised and removed by Pakistan super league	Page 2
8.	- Revise the sentence: "The league came into experience on 9 September 2015 with five groups using the Pakistan Cricket Board."	Revise its telling about the establishing of this league and its team names	Page 2
9.	The problem statement is ambiguous, state clearly	Revise this problem statement tells us that there is limited amount of work done on psl and we come to discern necessity that winning prediction depends on players selection so we should select top players for a team.	Page 3
10.	Include the aim of your work in one sentence before the objectives	Revised and included Aim of our study. The aim of this research is to identify the feature influencing the performance of both bowlers and batsmen. It has a direct effect on the	Page 3

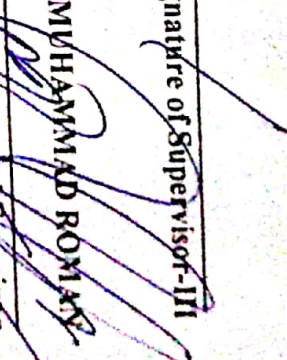
		result of the match on the cricket field.	
11.	- Revise the Sentence: "This article focuses on a thorough investigation of the methods used to graphically "classify and regression tree" (CART) and use the widely used logistic regression methodologies to quantify the significance of those significant variables."	Revise the whole sentence and removed meaningless words from it	Page 5
12.	Break down the complex and lengthy paragraph into shorter sentences for easy reading and understanding.	Revised properly	Page 6 to 10
13.	The author uses Jupyter notebook as an IDE and the Scikit library as a package in Anaconda, WEKA (weka-wrapper3), The author should mention the reason behind it. The author should also mention why he chose machine learning algorithms. Is it performing better with your datasets or suitable for the overall performance of the proposed approach?	Revised we have use Jupyter notebook as an IDE because its allows you visually display data and share your work with others. scikit library is used for classification and regression problem so our problem was related to classification that's why we use this library	Page 13
14.	Provide technical detail for preprocessing, feature selection and classification	Revised we have provided the feature tables and implementation on those attributes with different formulas	Page 17 to 25
15.	Provide information for precision, accuracy, recall, and "f1-score."	Revised and provided already	Page 30 to 31
16.	Fig 3 is invisible	Revised	Page 15
17.	Table 1 should be in standard thesis format. Also shift the caption into top position	Revised and shifted to top position	Page 12
18.	I suggest to covert the rating data available on page 38-43 into tabled form	Revised and converted into table format	Page 38 to 43
19.	In the methodology section the author just mentions machine learning algorithm without detail information about the algorithm	Revised we introduce all four algorithms in methodology section	Page 28 to 30
20.	The author should further explain the use of evaluation methods used in the proposed algorithm.	We have mentioned the evaluation parameters for measuring the performance of proposed algorithms they tell us how well our algorithm is working and how can we compare. with other algorithms.	Page 30
21.	Add a separate sub-section in this chapter with heading "Evaluation and Discussion". This section should first describe the main idea/motivation of performing the study in the field.	There is a subsection included in chapter 1 which describes motivation of this research	Page 46

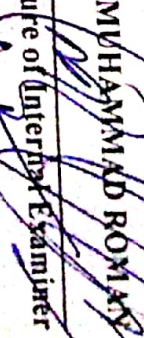
	Observations raised by internal Examiner	Action Taken	(If any)
1.	Capitalize each word in the title. 'prediction' is in small case.	Revised correctly	Page 1
2.	The study focus seems to be on team selection, which is an important issue not only in T20 but also in other forms of tournaments and teams. The abstract could be more generic consider the issue of team selection in all sorts of games and then T20 could be selected as a case study	Revised: we are focusing on PSL domestic league only as we have dataset of psl seasons only	Page 1 to 2
3.	The abstract does not highlight existing literature and the issues in those approaches.	Revised: as seek of our knowledge there is only one paper published in PSL winning prediction. Which is already mentioned in background study, and we are comparing our model with "PSL Eye model"	Vi
4.	Introduction discusses only the information of Cricket and PSL. It should rather focus on the problem in hand, the techniques used currently, and issues in those techniques.	Revised	Page 2 to 3
5.	Throughout the thesis in-text citation comes after full-stop '.'. Please refer to Page 14, for instance.	Revised and cited accordingly	Page 14
6.	Third objective should come first.	Revised and shifted the third object	Page 3
7.	Literature must be revised thoroughly. It must have some logical sections, currently there are only two sections: background study, and literature review (same as chapter name). The chapter must conclude something from the discussion using tables, comparisons. And a literature summary section.	Revised properly we have added a table of related work in which we mentioned the techniques used in previous work.	Page 12
8.	Page 26 is half blank	Revised spaces have been removed	Page 26
9.	First figure of Chapter 3 is Fig 3. Also consider removing background from Fig 2. Use the word Fig and Figure consistently	Revised and changes are made on appropriate page	Page 15
10.	Every section must have some discussion. It should not be left blank. Consider Section 3.2	Revised it's a main heading of dataset collection after those sections has been given accordingly	Page 14
11.	Fig 3 is a table not a figure. Make an editable table for clarity. Avoid taking snapshots of contents.	Revised it's a picture of dataset we have collected from different websites	Page 15
12.	Discussion about scoring technique, fifties, centuries, high score, zeros seem irrelevant in methodology section. It diverts the attention of a reader from the main methodology steps.	Revised these are the attributes which we have selected for players ranking they are telling the ranges by which we can evaluate the players	Page 21 to 24
13.	The Methodology chapter closes after data processing step. It does not conclude the rest of the steps in the methodology	Revised accordingly	Page 25
14.	The flow of chapter 4 is not clear. It starts discussion of dataset split, precision, recall, accuracy out of context. Followed by the results of Random Forest, SVM. It does not conclude the results in discussion.	We have discussed the evaluation parameters in chapter 4 following all the basic and appropriate results in sequence including best batsmen and bowlers graphs their correlations etc..	Page 29
15.	Section 4.10 discusses batting analysis followed by batting index, and Bolling analysis. It does not seem	Revised accordingly Revised batting index is important for feature	Page 43

16.	Section 4.7 discusses batting analysis followed by batting index, and Bowling analysis. It does not seem to be aligned with the objectives of this research.	Revised accordingly Revised batting index is important for feature selection of players as it's an ICC formula for ranking a player so we implemented on those players which are ranked on behalf of feature score.	
17.	. Throughout the thesis extra spaces are found. Kindly try removing the extra spacing from sections, tables, before/after figures.	Revised and extra spaces are removed from whole thesis	

Name & Signature of Supervisor-I  
  
 Dr. Irfan Uddin

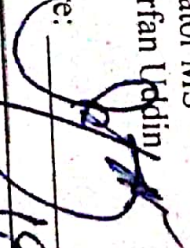
Name & Signature of Supervisor-II  
  
 Dr. Muhammad Adnan

Name & Signature of Supervisor-III  
  
 DR. MUHAMMAD ROMAY

Name & Signature of Internal Examiner  


Date: 24/7/2023

The case is.  
 Recommended for public defense.  
 Not Recommended for public defense

Coordinator MS  
 Dr. M. Irfan Uddin  
 Signature:   
 Date: 18/7/2023

Note: Student/Supervisor(s) are requested to propose a date and time for public defense based on the availability of all examiners.



## CERTIFICATE REGARDING INCORPORATION OF OBSERVATIONS DURING DEFENSE

<b>Scholar Name</b>	Qazi Muzzamil Shah	
<b>Research Title</b>	Leveraging Deep Neural Network for Selecting Players of Pakistan Super League on the Root of their Enactment prediction.	
	<b>Comments</b>	<b>Action Taken</b>
	1. Data of PSL players were collected from which source?	Data of PSL players were collected from different sources like cricket sheet ESPNINFO, PAKISTAN CRICKET BOARD official website
	2. What was the most important step in preprocessing?	The most important step in preprocessing was feature collection of both batsmen and bowlers on which we can evaluate our predicting model
	3. Correlation matrix how you obtain their information	There were many features in our dataset, but we only mentioned those features which have direct impact on players performance
	4. Why random forest is best	Random forest performs best result as compared to other algorithm because of its nature and working mechanism
	5. Deep learning vs machine learning	Machine learning is a subset of artificial intelligence that involves training algorithms to learn from data and make predictions or decisions without being explicitly programmed. Deep learning is a subset of machine learning that involves training artificial neural networks, which are composed of layers of interconnected nodes, to learn from large amounts of data
	6. Why you chose PSL problem	It's a world most popular sport and most viewing league in global world and for seek of our knowledge there is a very little amount of work done on PSL and it can open new doors for researchers in this field.
	7. In your opinion what was the most important feature in both batsmen and bowler's dataset while preprocessing	The most important feature in both batsmen and bowlers was their consistency regarding their score

Dr. Irfan Uddin

Dr. Muhammad Adnan

Name & Signature of Supervisor-I

Name & Signature of Supervisor-II

Name & Signature of Supervisor III

DR. MUHAMMAD ROMAN

Name & Signature of Internal Examiner

Date: 24/7/2023

Name & Signature of Departmental Graduate Committee:

1. Prof. Dr. Sharifullah Khan, IoC  
Convener/Director

2. Prof. Dr. Wali Khan Mashwani, INS  
Member/Dean

3. Prof. Dr. Muhammad Asif Jan, INS  
Member

4. Dr. Amjad Mahmood, Associate Professor, IoC  
Member

5. Dr. Saima Hassan, Assistant Professor, IoC  
Member

6. Dr. M. Irfan Uddin, Assistant Professor, IoC  
Co-Opted Member (Coordinator MS)

7. Dr. Muhammad Roman, Lecturer, IoC  
Member

8. Dr. M. Altaf Khan, Assistant Professor, IoC  
Secretary DGC

Date: 24/7/2023



KOHAT UNIVERSITY OF SCIENCE & TECHNOLOGY  
INSTITUTE OF COMPUTING

Date: 09.06.2023

The controller of Examinations  
KUST.

Through : Dean, Faculty of Physical and Numerical Sciences

Subject: Viva Voce Examination for the Degree of MS in Computer Science

The viva voce examination of Mr. Qazi Muzzamil Shah S/O Mr. Munawar Hussain, Course Registration No. CS320192019, candidate for MS (CS) Degree in Computer Science was held on 9<sup>th</sup> June, 2023. The title of his MSCS thesis was "Leveraging Deep Neural Network for Selecting Players of Pakistan Super League on the Root of Their Enactment Prediction" During the examination, the candidate was asked to give a detail description of the work embodied in the dissertation, which he accomplished by presenting his work in a clear manner. Several questions were asked regarding the work and in the field of Computer Science. The candidate answered the questions satisfactorily with sound understanding and demonstrated that he possesses good knowledge of his research domain.

We therefore feel no hesitation to recommend Mr. Qazi Muzzamil Shah for the award of MS(CS) Degree in Computer Science.

INTERNAL EXAMINER  
Dr. Muhammad Roman  
Institute of Computing  
KUST

EXTERNAL EXAMINER  
Dr. Fakhre Alam  
Department of CS & IT  
University of Malakand

Director  
Institute of Computing, KUST





KOHAT UNIVERSITY OF SCIENCE & TECHNOLOGY  
INSTITUTE OF COMPUTING

Date: 09-06-2023

Award List

Course Code: 691

Course Title: Research Thesis (MScS)

Cr. Hrs: 06

Supervisor-I : Dr. Muhammad Irfan Uddin  
Assistant Professor-IoC

Supervisor-II : Dr. Muhammad Adnan  
Lecturer-IoC

S.No	Registration No	Name	Pass/Fail
1	CS320192019	Qazi Muzzamil Shah	Pass

SUPERVISOR-I

Dr. Muhammad Irfan Uddin

INTERNAL EXAMINER

Dr. Muhammad Roman

SUPERVISOR-II

Dr. Muhammad Adnan

EXTERNAL EXAMINER

Dr. Fakhre Alam



All Heads of Teaching Departments/Institutes,  
Kohat University of Science & Technology, Kohat.

### **NOTIFICATION**

It is notified for the information that a MS Viva Voce Exam in Computer Science is scheduled to be held in the Institute of Computing, KUST as per schedule given below:

**Title of Dissertation:** Leveraging Deep Neural Network for Selecting Players of Pakistan Super League on the Root of Their Enactment Prediction

**Name of Research Scholar:** Mr. Qazi Muzzamil Shah

**Registration No:** CS320192019

**Date/Time:** June 09,2023 (Friday) at 11:00 AM

**Venue:** IoC Conference Room (Academic Block III-(A), KUST

Faculty members and research scholars are cordially invited to attend the above-mentioned presentation.

  
**Director**  
Institute of Computing

Copy to:

1. Dean, Faculty of Physical and Numerical Sciences
2. Controller of Examinations
3. Director AS&R
4. Director Academics
5. P.A. to Vice Chancellor
6. IoC Notice Board
7. Master File



KOHAT UNIVERSITY OF SCIENCE & TECHNOLOGY  
INSTITUTE OF COMPUTING

Date: 9/06/2023

PRE- RECEIPT BILL FOR PRACTICAL/VIVA VOCE & THESIS EXAMINATION

Examination: Viva Voce (MSCS)

Name of Scholar: Mr. Qazi Muzzamil Shah

Course Reg. No CS320192019

Name of External Examiner: Dr. Fakhre Alam, Assistant Professor

Address: Department of Computer Science & IT, University of Malakand

Name of Internal Examiner: Dr. Muhammad Roman, Lecturer-IoC

Address: Kohat University of Science and Technology, Kohat

Name of Supervisor-I Dr. Muhammad Irfan Uddin, Assistant Professor -IoC

Name of Supervisor-II Dr. Muhammad Adnan, Lecturer -IoC

Name of Supervisor-III (if any) NA

External Examiner (Signature)

Internal Examiner (Signature)

External Reviewer (In case of Ph.D) Signature

Supervisor -I (Signature)

Supervisor -II (Signature)

Supervisor -III (Signature)



KOHAT UNIVERSITY OF SCIENCE & TECHNOLOGY  
KOHAT

**CLEARANCE CERTIFICATE**

Purpose of Clearance:  Degree  Provisional  Transcript  Security University/Hostel  Admission Cancellation  Thesis Submission

Name of Student: Daji Muzzamil Shah

Father's Name: Munawar Hussain

Discipline: MS(CS) Semester \_\_\_\_\_

Hostel Name (if Any) - Student Fee Slip ID No: CS320192019

**Office Use Only**

Please report regarding his/ her outstanding books/ dues/ other thing (if any) of the above mentioned student.

Boarder  Dayscholar  Hostel Name

Hostel Manager \_\_\_\_\_ Provost Signature / Stamp \_\_\_\_\_

1. Head of Department Shafiq

2. Director Academics / Admission Section Cleared 3. Librarian \_\_\_\_\_

4. ENSEC Directorate ICT, KUST 5. University Cafeteria \_\_\_\_\_

6. CDC Convener Discipline Committee, KUST 7. Chief Proctor \_\_\_\_\_

8. Accounts Section:  Clear  Outstanding

i. University \_\_\_\_\_ ii. Hostel Fee \_\_\_\_\_

Accountant Signature \_\_\_\_\_ Stamp \_\_\_\_\_

★ Please Collect your Cheque (if any) with in 03 Months. Other wise it will be considered Cancelled (Note) Every Student has to present his / her 1st & last Admission Fee Slip / Hostel Fee Slip (Photo Copy will not be acceptable for University / Hostel Security)