



# MUC RESEARCH BULLETIN

**ISSUE 1 / Vol 1 / April 2025**

For the Academic Year 2023-2024

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# DEANS MESSAGE

Dear Colleagues, Students, and Esteemed Readers,  
I am delighted to present to you the first issue of Majan University College (MUC) Research Bulletin. This bulletin marks a significant milestone in our commitment to fostering a vibrant research culture within our academic community.

The 2023-2024 academic year has been a remarkable period for our institution, highlighted by numerous groundbreaking research publications, impactful conference presentations, prestigious grants, and well-deserved honors and awards. This bulletin serves to showcase these outstanding achievements and to recognize the dedication and hard work of the various faculties at MUC.

Our research endeavors not only advance knowledge within our respective fields but also contribute to solving real-world problems and enhancing the well-being of society.

This bulletin ,Issue 1 , Volume 1, will provide a platform to share these contributions and to inspire further collaboration among our academic community. We are pleased to announce that the research bulletin will be published once a year.

At Majan University College (MUC), together we transform lives through education, research, and innovation.



**PUBLICATIONS IN  
REFEREED JOURNALS**

## PUBLICATIONS IN REFEREED JOURNALS

**Publication Date** June 2024

**Research Title** Investigating boosting techniques' efficacy in feature selection: A comparative analysis

**Journal** Energy Reports

**Authors** Ubaid Ahmed, Ansar Mahmood, Majid Ali Tunio, Ghulam Hafiz, Ahsan Raza Khan, Sohail Razzaq

**DOI** <https://www.sciencedirect.com/science/article/pii/S2352484724001653>

Accurate solar irradiance (SI) forecasting is crucial for optimizing solar energy and relies on meteorological features. This study explores boosting algorithms for feature selection, a relatively unexplored area.

The research compares Extreme Gradient Boosting (XgBoost), Categorical Boosting (CatBoost), Random Forest (RF), and Light Gradient Boosting Machine (LGBM) for selecting relevant features. SI data from Islamabad (Pakistan), Basel (Switzerland), and Golden (Colorado, USA) from the National Solar Radiation Database (NSRDB) were used. Features selected by each boosting algorithm were input into a Bidirectional Long-Short-Term Memory (BiLSTM) network for hour-ahead Global Horizontal Irradiance (GHI) forecasting.

Performance indicators included Root Mean Square Error (RMSE), Mean Square Error (MSE), Mean Absolute Error (MAE), Mean Absolute Scaled Error (MASE), and Normalized Root Mean Square Error (NRMSE). The results show that BiLSTM networks trained with XgBoost-selected features achieved the best forecasting results. Specifically, for Islamabad, RMSE and MAE improved by 29.92% and 14.03%, respectively; for Basel, by 14.43% and 28.72%; and for Golden, by 10.5% and 17.38%, compared to conventional models.



**Dr. Sohail Razzaq**

Assistant Professor of  
Communication Systems

## PUBLICATIONS IN REFEREED JOURNALS

**Publication Date** April 2024

**Research Title** Opportunity Abandonment: Why are entrepreneurs vulnerable to Type I and II Errors?

**Journal** Heliyon, 10 (9)

**Authors** Tahseen Anwer Arshi, Venkoba Rao, Atif Saleem Butt

**DOI** <https://www.sciencedirect.com/science/article/pii/S2352484724001653>

Opportunity actualization is a key competency for entrepreneurs, yet Entrepreneurial Opportunity Abandonment (EOA) remains under-explored.

This study investigates why entrepreneurs make errors in opportunity decisions, either abandoning potentially viable opportunities (type I error) or pursuing non-opportunities (type II error) only to later forsake them. Through a scoping literature review, the study identifies psychological variables influencing EOA decisions, such as cognitive limitations in articulating, concretizing, and communicating opportunities.

It highlights how varying construal mindsets lead to reification fallacies and perceptual blocks, which hinder the expression of opportunity ideas. Additionally, subjective stakeholder feedback and biased information exchange significantly affect EOA decisions, mediated by entrepreneurs' information processing capabilities. The paper proposes four hypotheses related to entrepreneurial decision limitations, emphasizing the need for empirical investigation to better understand the factors contributing to EOA.



**Prof. Venkoba Rao**

Professor of Business Administration

## PUBLICATIONS IN REFEREED JOURNALS

**Publication Date** September 2023

**Research Title** The interplay between corrective feedback timing and foreign language anxiety in L2 development.

**Journal** Language Teaching Research.

**Authors** Ehsan Rassaei

**DOI** <https://www.sciencedirect.com/science/article/pii/S2352484724001653>

Recent research has highlighted the effectiveness of immediate and delayed corrective feedback (CF) on second language (L2) learning. However, the impact of learner individual factors, such as foreign language anxiety (FLA), on the effectiveness of immediate and delayed CF remains less explored.

This study aims to investigate whether learners' FLA moderates the effectiveness of these feedback types. To explore this, 82 learners of English as a foreign language (EFL) were randomly assigned to immediate feedback, delayed feedback, or a control group. During three sessions, participants performed storytelling tasks in groups of four and received either immediate or delayed metalinguistic feedback. Immediate feedback was provided immediately after an error during the task, while delayed feedback was given at the end of each task.

Pretest, posttest, and delayed posttest writing tasks and error correction tests were used to measure development. The findings indicated that immediate and delayed CF were equally effective overall. However, considering learners' FLA, immediate CF was more beneficial for learners with low FLA compared to those with high anxiety, while no significant effects of FLA on delayed CF were observed.



**Prof. Ehsan Rassaei**

Professor of Applied Linguistics

# **CONFERENCE PRESENTATIONS**

# CONFERENCE PRESENTATION

**Conference Date** July 2024

**Topic Title** Quizlet as a tool for Teaching Vocabulary

**Conference** 8th International Conference on Teaching, Learning and Education (ICTLE).

**Authors** Hajer AL-Majarafi

**Venue** Dublin City University, Ireland



**Hajer AL-Majarafi**

Senior Lecturer in English  
Language

The application of modern technology in the classroom has made a remarkable impact in English Language Teaching. Nowadays, most English language teachers incorporate different technological applications and aids in delivery of their lessons. One current practice is the implementation of Quizlet as an application tool in teaching English, with specific focus on Vocabulary. Different aspects of vocabulary are assessed, some of the test items include word formation, synonyms, and antonyms. The present study was carried out in a Higher Education Institution (HEI), General Foundation Programme (GFP) at Majan University College (MUC). It aims to investigate the effectiveness of utilising technology in motivating learners, increasing reciprocal interaction, and enhancing their performance.

**Conference Link** <https://euagenda.eu/events/2024/07/26/8th-international-conference-on-teaching-learning-and-educationictle>

# CONFERENCE PRESENTATION

**Conference Date** July 2024

**Topic Title** Technology aided framework for dealing with Student Mental Health

**Conference** International Conference on Advances in Science, Engineering, and Technology (ICASET - 2024)

**Authors** Dr. Jacintha Menezes

**Venue** Integral University, India.



**Dr. Jacintha Menezes**

Assistant Professor of  
Computer Sciences

This paper addresses the growing concern of mental health issues among students and proposes a technology-aided framework for early intervention and support. The framework incorporates AI-based assessment tools, mobile self-care apps, online platforms, and federated learning for predictive analytics to monitor mental health trends. It aims to enhance accessibility, deliver personalized support, and enable proactive intervention while ensuring ethical considerations like privacy and security. The approach presents a promising solution for improving student mental well-being in educational institutions globally.

**Conference Link** <https://www.taylorfrancis.com/chapters/edit/10.1201/9781003641544-25/technology-aided-framework-dealing-students-mental-health>

# CONFERENCE PRESENTATION

**Conference Date** July 2024

**Topic Title** Enhancing EFL Learners' Knowledge of L2 Requests during Mobile-mediated Text-based and Audio-based Dynamic Assessment

**Conference** 17th International Conference on Blended Learning (ICBL 2024)

**Authors** Prof. Ehsan Rassaei

**Venue** Macao SAR, China

The present study investigated the effects of mobile-mediated dynamic assessment (DA) during text and audio chat on learning well-formed and appropriate requests by second language (L2) learners. The participants included Sixty-seven English as a Foreign Language (EFL) learners who were randomly assigned into one control and two experimental WhatsApp groups. The participants in the two experimental groups participated in three mobile-mediated DA sessions and received mediation for their errors in formulating requests either through text or audio chat depending on their group designation. Learners' development was measured through a discourse completion task and a pragmatic judgement test, administered as pre-test, post-test and delayed post-test, as well as analyzing learners' target-like responses to the mediation they received during the DA sessions. The results revealed that both audio-based and text-based DA were effective for promoting learners' knowledge of well-formed and appropriate requests. Moreover, the findings indicated that text-based DA has an edge over audio-based DA for promoting learners' development.

**Conference Link** <https://hksmic.org.hk/icbl/2024/>



**Prof. Ehsan Rassaei**

Professor of Applied Linguistics

# CONFERENCE PRESENTATION

**Conference Date** June 2024

**Topic Title** Assessment use justification: Developing fit-for-purpose assessment tasks in HE

**Conference** The Assessment in Higher education

**Authors** Dr. Muhammad Tanveer

**Venue** University of Cumbria, UK



**Dr. Muhammed Tanveer**

Assistant Professor in  
English Language

Assessment developers, higher education institutions, assessment administrators, and assessment users bear responsibility for justifying the assessment use and its consequences to all stakeholders such as test takers, university admissions officers, and other similar decision makers (Bachman & Palmer, 2010). If any decision on a test taker's ability is made based on an assessment which is not fit for its intended purpose, its use cannot be justified. Seeking insight from Bachman and Palmer's (2010) test development and use framework in the field of language testing, this paper presents a case study of a test development process followed to design speaking test tasks in English for recruitment purposes in a corporate sector. The lessons learned from developing and using test tasks in the corporate sector are discussed with respect to their implications for designing similar fit-for-purpose assessment tasks in higher education.

**Conference Link** <https://ahenetwork.org/international-ahe-conference-2024/>

# CONFERENCE PRESENTATION

**Conference Date** March 2024

This study explores the impact of blockchain on the global telecom industry using a qualitative approach. It identifies key barriers and drivers of blockchain technology integration with the telecom industry and provides practical recommendations. Utilizing the DEMATEL approach, the research analyzes blockchain's challenges and benefits, including improved security, operational efficiency, and cost savings, while addressing regulatory and technological issues. The findings offer valuable insights for academics and policymakers, supporting sustainable practices in the telecom sector.

**Conference Link** <https://asfaag.com/south-north-america/>

Certificate of Attendance

**This certificate is awarded to**

Dr. Dina Ghandour

Majan University College, Oman for successfully presenting the paper on

**Exploring Block Chain Adoption in the Telecom Industry Navigating Barriers and Enablers**

in the ASFAAG American Chapter Conference 2024 on Planet, People & Profits **Promoting Sustainable Businesses for Triple Bottom-Line** held on 29th

February – 2nd March 2024, Florida International University,

Miami, Florida, USA



**Dr. Dina Ghandour**  
Assistant Professor of  
Accounting & Finance



# CONFERENCE PRESENTATION

**Conference Date** March 2024

**Topic Title** Re-imagining Online Learning via MOOCs: Challenges and Opportunities in Re-humanizing Language Education

**Conference** 58th RELC International Conference

**Authors** Dr. Peter Mitchell

**Venue** Singapore

In the past five years, MOOCs have rapidly expanded in higher education, offering unprecedented scalability and access to quality content. This shift, accelerated by Covid-19, spurred online learning technology development and acceptance but reduced human interaction. For language learning, this poses challenges for developing intercultural communicative competence but also offers opportunities to rethink teaching methods. Drawing from his experience creating intercultural communication courses for 70,000 learners across 190 countries on Coursera, the author—a leader in ELT and Coursera Top Instructor—explores how to re-humanize language education while maintaining scalability and quality.

**Conference Link** <https://www.relc.org.sg/elementor-3716/>



**Dr. Peter Mitchell**

Head of Faculty of English  
Language Studies

# CONFERENCE PRESENTATION

**Conference Date** February 2024



**Ms. Bushra Al Hasani**

Senior Lecturer of Business Administration



**Dr. Mohammed Hussein**

Assistant Professor of Business Administration

**Topic Title** The Catalytic Influence of Social Entrepreneurship on Inclusive Economic Growth

**Conference** 2nd International Conference on Strategies for Empowering Oman as a Competitive Economy

**Authors** Dr. Mohammed and Ms. Bushra

**Venue** Muscat, Oman

**ConferenceLink** <https://www.aou.edu.om/media/Pages/events-item.aspx?iid=14>

# CONFERENCE PRESENTATION

**Conference Date** February 2024



**Prof. Venkoba Rao**  
Professor of Business  
Administration



# CONFERENCE PRESENTATION

**Conference Date** December 2023



**Topic Title** Deep learning classification model for analyzing and predicting road accidents

**Conference** International Conference On Intelligent Systems In Computing And Communication

**Authors** Dr. Manju Jose

**Venue** India

**Conference Link** [https://link.springer.com/chapter/10.1007/978-3-031-75605-4\\_22](https://link.springer.com/chapter/10.1007/978-3-031-75605-4_22)

**Dr. Manju Jose**

Assistant Professor of Computer Sciences



# GRANTS, HONORS & AWARDS

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مجلس البحث العلمي  
The Research Council

# TRC Block Funding Program Grant from the Omani Research Council

**Dr. Ammar** has been awarded The Research Council (TRC) Block Funding Grant for his research project

**“Exploring the Impact of Tourism  
Development on Coastal Area Communities”**



**Grant Amount: OMR 19,800**

**MUC**  
Majan  
University  
College  
كلية مجان الجامعية

**Dr. Ammar Al Balushi**  
Head of Faculty  
Faculty of Business Administration



مجلس البحث العلمي  
The Research Council

# SRPP Funding Program Grant from the Omani Research Council

**Dr. Ramalingam Dharmalingam** has been awarded The Strategic Research Project Program (SRPP) Funding Grant for his research project

**Developing an AI and ML based Early Detection Model for Banana Fusarium Wilt Disease in Oman using Hyperspectral Imaging**



**Grant Amount: OMR 65,000**



**Dr. Ramalingam**  
Assistant Professor  
Faculty of Information Technology

# BEST PAPER AWARD



**Dr. Jacintha Menezes**

Assistant Professor, Faculty of  
Information Technology (FoIT)



**Dr. Ramalingam**

Assistant Professor, Faculty of  
Information Technology (FoIT)

## **Dr. Jacintha & Dr. Ramalingam**

from the Faculty of Information Technology have won the Best Paper Award at an international conference in the UK for their paper

**"HLB Disease Detection in Omani Lime Trees Using Hyperspectral Imaging Techniques."**

[https://link.springer.com/chapter/10.1007/978-3-031-53085-2\\_7](https://link.springer.com/chapter/10.1007/978-3-031-53085-2_7)

# BEST PAPER AWARD



## "HLB Disease Detection in Omani Lime Trees Using Hyperspectral Imaging Techniques."

**Authors Names** Jacintha Menezes, Ramalingam Dharmalingam, & Palaiahnakote Shivakumara

Omani acid lime cultivation has recently been impacted by Citrus greening (HLB) disease, a severe citrus disease with no known cure. Traditional detection methods, such as Polymerase Chain Reaction (PCR) and Enzyme-linked Immunosorbent Assay (ELISA), involve lengthy and labor-intensive procedures requiring specialized equipment and staff.

To overcome these limitations, this research employs hyperspectral imaging technology for automatic HLB detection. Leaf images from healthy, nutrition-deficient, and HLB-infected citrus trees were captured using a Specim IQ hyperspectral camera. These high-resolution images were processed into RGB spectral-spatial cubes, which were then analyzed using a Convolutional Neural Network (CNN) for deep feature extraction.

The method achieved a 92.86% classification accuracy, with significant spectral bands identified at 560 nm, 678 nm, 726 nm, and 750 nm. This innovative approach demonstrates a promising and efficient solution for HLB detection and management in the citrus industry.

# PHD AWARDS



Faculty of Information  
Technology

**Dr. Albert Tayong**  
successfully completed his  
PhD thesis



Mathematical Modelling for Forecasting and Optimization  
**"A Basis For Operations Management"**



**Dr. Mohammed Siddique**  
Successfully completed his  
PhD thesis in

**Computer Applications**

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# PHD AWARDS



Faculty of English  
Language Studies



**Dr. Muhammed Tanveer** successfully  
completed his PhD thesis

**"Developing Speaking Test Tasks that Elicit the Construct  
of English Language Proficiency for Employability"**



**BOOKS &  
BOOK CHAPTERS**



**Mr. Mohamed Salah El Din**

Senior Lecturer

Faculty of Business Management

**Link** <https://www.igi-global.com/book/utilizing-assessment-grading-feedback-higher/331771>

Edited Book by

**Mohamed Salah Younis**

# Utilizing AI for Assessment, Grading, and Feedback in Higher Education

Nasser Hamed Al Harrasi and Mohamed Salah El Din



# BOOK CHAPTER



**Dr. Dina Ghandour**

Assistant Professor of  
Accounting & Finance

**Chapter Title** Navigating the Impact of AI Integration in Higher Education Ethical Frontiers

**Book** Utilizing AI for Assessment, Grading, and Feedback in Higher Education

**DOI** <https://www.igi-global.com/chapter/navigating-the-impact-of-ai-integration-in-higher-education/346555>

This chapter explores the ethical considerations of integrating AI into higher education, highlighting both its potential to enhance learning outcomes and the associated challenges. It aims to develop a comprehensive framework with actionable guidelines for educators, administrators, students, and policymakers. Key issues addressed include data privacy, bias, transparency, and academic integrity. By establishing best practices and ethical standards, the chapter seeks to ensure that AI is used responsibly and effectively, ultimately benefiting the educational sector.

# BOOK CHAPTER



**Dr. Ammar Al-Balushi**

Head of the Faculty of  
Business Management



**Mr. Ali Al Bolushi**

Lecturer of Business  
Administration

**Chapter Title** AI-Driven Innovation in Higher Education Marketing: An Exploration of Oman's Academic Landscape

**Book** Utilizing AI for Assessment, Grading, and Feedback in Higher Education

**DOI** <https://www.igi-global.com/chapter/ai-driven-innovation-in-higher-education-marketing/346558>

This chapter explores AI's impact on higher education marketing and the challenges of its integration. It highlights the need for AI literacy, addresses ethical issues such as data privacy, and balances technology with human interaction. Proposing a strategic framework for AI in marketing, the chapter aligns with Oman's Vision 2040, identifies research gaps, and suggests future investigations. It provides guidance on strategic planning and execution, offering insights for Omani institutions on effectively using AI and noting emerging trends.

# THANK YOU!

Prepared By  
Dr. Dina Ghandour

