



Ahatsham Hayat

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WORK EXPERIENCE

02/01/2023 – CURRENT Lincoln, United States

GRADUATE RESEARCH ASSISTANT UNIVERSITY OF NEBRASKA-LINCOLN

1. Currently Working as a **lead scientist on an NSF-sponsored project**, I'm developing an AI for behavioral interventions using Large Language Models (LLMs). The project focuses on AI challenges related to handling and understanding multi-modal time-series data.
2. My work in AI research, specifically with Generative AI and Large Language Models (LLMs), has allowed me to develop innovative solutions for complex challenges, setting new standards in the field. I am advancing state-of-the-art methods to address fundamental problems such as missing value imputation in tabular data and learning from experiential multi-modal time-series data. My focus on these core issues enables the development of solutions with broad applicability, underscoring my commitment to foundational research and future advancements in AI.

Department Department of Electrical and Computer Engineering

11/01/2021 – 01/31/2023 Funchal, Portugal

RESEARCH ASSISTANT MADIERA INTERACTIVE TECHNOLOGICAL INSTITUTE (MITI) - LARSYS

1. Applying Artificial Intelligence in the Agriculture field.
2. **BAnana SEnsing (BASE)** Project- Extract the most relevant features to predict the development of bananas and develop a model to predict its maturation ahead.
3. Applying Machine/Deep Learning, to estimate the development of bananas.

11/12/2017 – 08/30/2021 Dehradun, India

ASSISTANT PROFESSOR UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

- Teaching graduate and undergraduate students in the discipline of Computer Science and Information Technology.
- Conducting Research and Publishing its Results in the form of Journal/Conference Paper.
- Advising undergraduate and graduate students in their thesis.

06/30/2016 – 11/07/2017 Vadodara, India

ASSISTANT PROFESSOR PARUL UNIVERSITY

- Teaching graduate and undergraduate students in the discipline of Computer Science and Information Technology.
- Conducting Research and Publishing its Results in the form of Journal/Conference Paper.
- Advising undergraduate and graduate students in their thesis.

● EDUCATION AND TRAINING

01/23/2023 – CURRENT Lincoln, United States

PH.D. University of Nebraska-Lincoln

- Natural Language Processing
- Computer Vision
- Generalizability of Self-Supervised Learning Models

Field of study Computer Science

06/16/2014 – 06/15/2016 India

MASTER OF TECHNOLOGY Visvesvaraya National Institute of Technology

- Conventional Machine Learning
- Deep Learning
- Computer Vision
- Object Detection

Field of study Computer Science | **Final grade** 7.5/10 |

Thesis Stream Clustering Algorithm for Dynamically Detecting Temporal Contexts

06/16/2010 – 05/15/2014 India

BACHELOR OF TECHNOLOGY Uttarakhand Technical University

- Natural Language Processing
- Conventional Machine Learning

Field of study Computer Science | **Final grade** 70% | **Thesis** Fake News Detection using Binary Classification

● DIGITAL SKILLS

Python (PyROOT, RDataFrame; ML: Keras, TensorFlow) | Data Science ,Data Analytics

● ADDITIONAL INFORMATION

PUBLICATIONS

Recent Publications

Hayat, A.; Mohammad, H., "**CLAIM: Leveraging Pre-trained Language Models for Handling Missing Data Across Categories**", in **ACL 2024** (Submitted)

Hayat, A.; Khan, B.; Akil, S.; Martinez, H.; Mohammad, H., "**Enhancing Zero-Shot Learning of Large Language Models for Early Forecasting of STEM Performance**", American Society For Engineering Education (**ASEE**) **2024** (Submitted)

Hayat, A.; Khan, B.; Mohammad, H., "**Leveraging Language Models for Analysis of Experiential Time-Series Data in Education**", in **ICML 2024** (Submitted)

Hayat, A.; Mohammad, H., "**The Power of Personalization and Contextualization: Early Student Performance Forecasting with Language Models**", in **NeurIPS'23** Workshop on Generative AI for Education (GAIED). 2023

Hayat, A.; P. Baglat, F. Mendonça, S. S. Mostafa, F. Morgado-Dias, "**Novel Comparative Study for the Detection of COVID-19 using CT Scan and Chest X-Ray Images**" in International Journal of Environmental Research and Public Health. 2023; 20(2):1268. <https://doi.org/10.3390/ijerph20021268>.

P. Baglat, **Hayat, A.;** F. Mendonça, S. S. Mostafa, A. Gupta, F. Morgado-Dias, "**Non-Destructive Banana Ripeness Detection using Machine and Deep learning: A Systematic Review**" in Sensors. 2023; 23(2): 738. <https://doi.org/10.3390/s23020738>.

Hayat, A.; Dias, M. "**Deep Learning-Based Automatic Safety Helmet Detection System for Construction Safety**". Applied Sciences. 2022; 12(16):8268. <https://doi.org/10.3390/app12168268>.

Hayat, A.; Dias, M.; Bhuyan, B.P.; Tomar, R. **“Human Activity Recognition for Elderly People Using Machine and Deep Learning Approaches”**. Information 2022, 13, 275. <https://doi.org/10.3390/info13060275>.

Hayat, A.; Dias, M.; Choudhury, T.; Singh, T. Kotecha, K. **“FruitVision: A Deep Learning Based Automatic Fruit Grading System”**. 2023,Open Agriculture (Submitted)

Hayat, A.; Jain, S.; Shahare,V.; Arora, N.; Rab, S. **“Real Time Human Activity Recognition using Smart Phone”**, Advanced Science, Engineering and Medicine, Volume 12, 1-4, 2020. DOI: 10.1166/ asem.2020.2696.

Hayat, A.; Singh, A. ;Shahare,V.; Arora, N. **“An Efficient System for Early Diagnosis of Breast Cancer using Support Vector Machine”**, International Journal of Engineering and Advanced Technology (IJEAT) ISSN: 2249 – 8958, Volume-9 Issue-1, October 2019, Page 7029-7035.

Hayat, A.; Arora, N.; Singh, K. **“An Approach towards Real Time Smart Vehicular System Using Internet of Things”**, International Journal of Research in Engineering, IT and Social Sciences, ISSN 2250-0588, Volume 08 Issue 10, October 2018, Page 52-56.

CONFERENCES AND SEMINARS

Workshop Organized & Reviewer

- Organized **Madeira International Workshop in Machine Learning** held on 18 -22 July 2022.
- Reviewer for **Paladyn. Journal of Behavioral Robotics**.
- Reviewer for **Signal, Image, and Video Processing**.
- Reviewer for **International Conference on Advances in Computing, Communication, and Engineering**.
- Reviewer for **International Conference on Computing, Communication, and Security**.
- Reviewer for **International Conference on Machine Intelligence and Data Science Applications**.

RECOMMENDATIONS

Dr. Mohammad Rashedul Hasan Assistant Professor

Organization- University of Nebraska-Lincoln

Specialization- Artificial Intelligence, Natural Language Processing, Computer Vision

Email hasan@unl.edu | **Phone** (+1) 9802281811

Dr. Meera Dhabu Professor

Organization- Visvesvaraya National Institute of Technology

Specialization- Machine Learning, Computer Vision, Soft Computing

Email meeradhabu@cse.vnit.ac.in | **Phone** (+91) 9960586984

Dr. Morgado Dias Professor

Organization- University of Madeira

Specialization- Computer Vision, Object Detection

Email morgado.dias.uma@gmail.com | **Phone** (+351) 960470297

HONOURS AND AWARDS

01/23/2023

Graduate Research Assistantship – University of Nebraska-Lincoln

06/30/2014

MHRD Research Fellowship for pursuing Masters in VNIT Nagpur during 2014 – 2016 – Government of India