

PUBLICATIONS

S. Ali*, **S. Ashraf***, and O. Ali, "Classical Machine Learning Paradigms: A Study on News Classification Efficacy," in Proceedings of the 17th IEEE Conference on Open Source Systems and Technology (ICOSST 2023), 20-21 December 2023 (under review)

S. Iqbal*, **S. Ashraf***, S. Aslam, S. U. Bazai, Z. Zaland, T. K. Neo, A. Amphawan, "Chatbot: A Career Counselor," *The 3rd International Conference on Computer, IT, and Intelligent Computing (CITIC 2023)*, 26-28 July 2023

R. Ashar, B. Sadiq, **S. Ashraf**, H. Mohiuddin, I. Quresh, A. Ullah, "VSROF: Video Stabilization using RAFT-based Optical Flow," *International Conference on Robotics and Automation in Industry 2023*,

S. Ashraf, "Using Gaussian Process to predict the Big Five Personality Traits and its Facets using data collected from Smart Phones," *Masters Thesis, Florida State University, United States, 2021*,

S. Ashraf, K. Liaqat, "AI-Driven Solutions for Maximizing Solar Energy Conversion," *Journal of Renewable and Sustainable Energy (under review)*,

S. Ashraf, X. Liu, "EnigmaPersona: Unveiling Personalities with Gaussian Processes," *(Under review)*,

EXPERIENCE

MVSol Realtors Canada

February 2023 - Ongoing

- Deep Learning Engineer

Baluchistan University of IT, Engineering and Management Sciences (BUIITEMS)

July 2022 - Ongoing

- permanent Lecturer (BPS-18) - Software Engineering Department
- Final Year Design Project Supervisor for 2023 - 2024
 - * Cerebral Insight- A Neuroimaging Marvel with U-Net and Attention-Guided Tumor Identification
 - * Unleashing AI's Potential In Video Games
 - * Intelligent Registration and Security System - Industry Project
 - * Integrated Surveillance and Automated Maintenance Solution
 - * Comparative Analysis of Vulnerabilities in Various Mobile Application Categories Using Reverse Engineering and Machine Learning

Control Automotive and Robotics Lab - BUIITEMS

November 2021 - July 2022

- Research Associate — Senior AI Scientist
 - Worked on Voice Recognition for social robot and contextualizing the Urdu language used along with English in the same text and creating an algorithm for its sentiment analysis.
 - Worked on prediction of solar radiation, and performance enhancement of solar plants in Pakistan using a combination of deep learning and statistical learning techniques

Florida State University

Aug 2020 – July 2021

- Graduate Researcher - Computer Vision Group/ Dr. Xiuwen Liu
 - Predicted the Big 5 personality traits using Gaussian Process with reduced RMSE over other models.
 - Reverse Engineered AlphaFold and made a deep learning model for Protein prediction.
 - comparative study of multi-agent path planning algorithms in a 2D environment including Conflict-based search, MAPP, synchronous prioritized planning and asynchronous decentralized prioritized planning to train multiple agents to reach the goal optimally without collision (personal Project).
 - Comparison of the transformer models including BERT, XLnet and LLMs to examine the strengths and weaknesses of these transformers vs Large language Models on the IMDB dataset.

Sardar Bahadur Khan Women University

Sep 2018 – July 2019

- Visiting Lecturer — Department Of Computer Science
 - Taught Undergrad courses such as Graphics design, Multimedia systems and design, Internet Architecture and Protocols, Information Systems.

- Career counseling on how to Freelance and choose the appropriate degree. How to choose the better career with societal limitations.
- Helping students with senior year design projects. Under my supervision, one group designed an Augmented Reality FPS game on Unity. Another team made an emergency application that goes off in-case of a terrorist attack or accident occurs nearby informing locals and authorities.

UR's Pvt. Ltd.

2018

- Intern – IT Department
 - Helped build the Business Expert System that provides timely and accurate assistance in critical decision making. Assisted in various software maintenance tasks.

EDUCATION

Florida State University — MS(thesis) Computer Science (Fulbright)	2019-2021
• GPA: 3.82	
BUIITEMS Pakistan — BS Software Engineering —1st rank in graduating class	2014-2018
• GPA: 3.83	
Florida Gulf Coast University — Global UGRAD Exchange Student	2017
• GPA: 3.93	

ADDITIONAL COURSES/SPECIALIZATIONS

Machine Learning Specialization — DeepLearning.AI/Stanford/Coursera	2022
• Courses: Supervised Learning, Advanced learning algorithms, Unsupervised Learning	
IBM Machine Learning Professional Certificate — IBM/ Coursera	2022
• Course Certificates Completed: Deep Learning and Reinforcement Learning, Supervised Machine Learning: Regression, Supervised Machine Learning: Classification, Machine Learning Capstone, Unsupervised Machine Learning, Exploratory Data Analysis for Machine Learning	
First Step Korean — Yonsei University / Coursera	2023

HONORS AND AWARDS

Honorable Speaker award, Exchange opportunities and advantages for growth mindset, Quetta, Pakistan 2023

Faculty Advisor, Machine Learning Society, Quetta, Pakistan 2023

MasterClass on promoting Critical Thinking through STEM

Convener/ lead, Class Counselors Committee, Quetta, Pakistan 2023

Featured in Discover Balochistan - [Link to the article](#)

Secretary for Women Engineers, Pakistan Engineering Council, Quetta, Pakistan 2022

Foreign Fulbright Scholarship, FSU, Florida, USA 2019 — 2021

Delta Kappa Gamma World Fellowship, Florida, USA 2019, 2020

Distinction— Gold Medal for first position in BS-Software Engineering, BUIITEMS, Pakistan, 2018

Dean's List, FGCU, Florida, 2017

Global UGRAD Exchange Program, 2017

Quantaxis award for Startup, Innovation Summit Balochistan 2018

Balochistan Education Endowment Fund Scholarship: 3rd position In Engineering in Balochistan, 2016

Honorable Mention in Honors, Scholars and Fellows Excellence in the Visual Arts awards, FSU, 2020

1st place 'Inspire, Engage, and advance Women in Engineering Poster Competition', WIE/IEEE Pakistan, 2016

2nd place 'Environmental Art Exhibition', Pakistan, 2014

1st place 'Water for Life Essay Competition', Pakistan, 2014

1st place 'Earth Day Poster Competition', 2012

PROJECTS

Compiler Construction <i>C, yacc, Language Models, Computer Theory</i> <ul style="list-style-type: none">Built a functional compiler for a custom regular language.	Jan 2021 – Apr 2021
Modifying jEdit <i>Java, Open-Source Systems, Collaboration</i> <ul style="list-style-type: none">Enhanced jEdit by implementing feature changes, ensuring system integrity in a collaborative setting.	May 2020 – Jul 2020
AlphaFold Study/Reverse Engineering <i>DNNs, Protein Structure</i> <ul style="list-style-type: none">Analyzed AlphaFold's protein structure prediction and developed a similar algorithm.	Dec 2019 – Jul 2020
Comparative Study of NLP Transformer Models <i>Deep Learning, Language Models</i> <ul style="list-style-type: none">Conducted performance comparison between Bert and XLnet on the IMDB dataset.	Apr 2020 – May 2020
Study of Multi-Agent Path-Planning Algorithms <i>Trajectory Planning</i> <ul style="list-style-type: none">Evaluated multiple 2D multi-agent path planning algorithms for collision-free goal attainment.	Apr 2020 – May 2020
Bachelor's Thesis: Web-Based Password Security Algorithm <i>PHP, Cryptography</i> <ul style="list-style-type: none">Devised an innovative password security algorithm with SQLI prevention and extended the XTEA algorithm for irreversible hash generation.	Aug 2017 – Apr 2018

VOLUNTEER WORK/ COMMUNITY SERVICE

Career Counseling SBK Women University, Pakistan, 2018-Current

Project Mentoring SBK Women University, Pakistan 2018-Current

speaker and mentor: Scholarship, exchange and Education Opportunities in the world, 2018

Speaker: Ideas That Changed the World, BUIITEMS, Pakistan, 2017

Founder/Leader/Organizer: Started the Scratch Program and Organized Individual Fund Raisers, Pakistan, 2017

Wall painting and Talk on Environmental preservation Pakistan Online Volunteer group, Pakistan, 2017

Teacher: Excellence School and Academy, Workshop on Basic Computer (NISA), Pakistan, 2016

Teacher: Excellence School and Academy, Workshop on Graphic Design (NISA), Pakistan, 2016

Tutor: English, Math, Physics, Programming, 2011-2018