

TARIQ MAHMOOD
ASSISTANT PROFESSOR
CENTRE FOR HIGH ENERGY PHYSICS,
UNIVERSITY OF THE PUNJAB, LAHORE

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EDUCATION

Centre for High Energy Physics, University of the Punjab

PhD. High Energy Physics

Title: Neural Network Based Study of Charmonium Spectrum

GC University Lahore

MS. Computer Sciences (Quantum Artificial General Intelligence and Consciousness)

Title: Modeling and Simulation of Quantum Cognitive Perceptual Associative Memory for Computer Vision using Unified Theory of Mind for Machine Consciousness

Centre for High Energy Physics, University of the Punjab

M.Sc Computational Physics.

Thesis Title: Microcontroller Based Digital Locking System

University of the Punjab

B.Sc. Physics & Math (A+B)

[**Majors:** Physics, Mathematics (A+B)]

BISE, Lahore

Intermediate in Pre-Engineering

[**Majors:** Physics, Mathematics, Chemistry]

BISE, Lahore

Matriculation

[**Majors:** Physics, Mathematics, Chemistry, GTD]

COMPUTER SKILLS

Programming Skills

Having excellent programming skills in:

- C / C++, In Windows
- C# using DOT NET Technology
- Python
- Data Science
- Machine Learning
- Quantum machine learning
- MPI Programing, High Performance Computing
- Grid Computing in C#, Windows Communication Foundation

PUBLICATIONS

Sr. No.	Authors	Title	Status
1	Tariq Mahmood, Talab Hussain, Maqsood Ahmad	<i>Quantum Computer Architecture: A Quantum Circuit-Based Approach Towards Quantum Neural Network</i>	published in PAS, year=2023
2	Tariq Mahmood, Jumanah Ahmed Darwish, Talab Hussain, Maqsood Ahmad, Rehan Ahmed Khan Sherwani	<i>Solving Schrödinger Wave Equation for the Charmonium Spectrum Using Artificial Neural Networks</i>	Published in Advances in High Energy Physics, IF=1.7, year=2024

3	Muhammad Atif Khan, Tariq Mahmood , Ambreen Sarwar, Maria Faiq Javaid, Munawar Iqbal	<i>Prediction of Stock Market Movement Using Long Short-Term Memory (LSTM) Artificial Neural Network: A Case Study of KSE 100 Index</i>	Published in Pakistan Journal of Life and Social Sciences, year=2024
4	Hafiza Hina Ibraheem, Muhammad Rizwan Tariq, Shinawar Waseem Ali, Zujaja Umer, Zunaira Basharat, Azeem Intisar, Tariq Mahmood , Gulzar Ahmad Nayik, Seema Ramniwas, Tahani Awad Alahmadi and Mohammad Javed Ansari	<i>Assessing Nutritional Probing and Storage Stability of Functional Aloe Vera (Aloe barbadensis) based Guava Jam: A Machine Learning Approach for Predictive Modeling</i>	Published in International Journal of Food Science: IF=3.0 , 2024
5	Tariq Mahmood , Muhammad Shafiq, Naila Farooq, Adana Sami, Muhammad Zeeshan Haider, Qurban Ali, Shimming Han	<i>A Quantum Cognition Based Parallel Architecture of Body Sensor Network for Man-Machine Communication in Cancer Management</i>	Accepted , year=2024
6	Tariq Mahmood , Hassan Habib, Rehan Ahmad Khan Sherwani	<i>Comparative Analysis of Quantum Error Correction Codes: A Quantum Circuit Based Approach</i>	Submitted
7	Tariq Mahmood , Hassan Habib, Rehan Ahmad Khan Sherwani	<i>Grover's Algorithm for Astrophysical Data Analysis: A Quantum Computing Approach</i>	Submitted
8	Tariq Mahmood , Ibtasam Ahmad, Malik Muhammad Zeeshan Ansar, Jumanah Ahmed Darwish, Rehan Ahmad Khan Sherwani	<i>Comparative Study of Long Short-Term Memory (LSTM) and Quantum Long Short-Term Memory (QLSTM): Prediction of Stock Market Movement</i>	Submitted
9	Uswa Sehar, Rehan Ahmad Khan Sherwani, Tariq Mahmood , Jumanah Ahmed Darwish	<i>Exploring the Quantum Frontier: Road Accident Prediction Using Quantum Neural Networks and Traditional Machine Learning</i>	Submitted
10	Rehan Ahmad Khan, Iqra Altaf, Tariq Mahmood , Jumanah Ahmed Darwish	<i>Quantum Neural Networks and Conventional Machine Learning for Human Development Index Prediction</i>	Submitted
11	Tariq Mahmood , Rehan Ahmad Khan Sherwani	<i>Modeling of Quantum Cognitive Perceptual Associative Memory for Conscious Agents: A Parametrized Circuit of Quantum Neural Networks</i>	Submitted, under review
12	Tariq Mahmood , Rehan Ahmad Khan Sherwani, Muhayyuddin	<i>Quantum Cognitive Conscious Dreamer: A Hybrid Approach for Emotion-Based Selection of Dream Contents Using Quantum Neural Networks and Quantum Genetic Algorithms</i>	Submitted
13	Rehan Ahmad Khan, Amna Riaz, Tariq Mahmood	<i>Quantum computing in health care, current status and future prospects: a comprehensive review</i>	Submitted
14	Tariq Mahmood , Muhammad Afnan, Ikrma	<i>Loss Detection in Smart Grids: A Hybrid Model of Long Short-Term Memory and Highway Super Network</i>	Submitted
15	Rehan Ahmad Khan Sherwani, Amna Riaz, Tariq Mahmood , Jumanah Ahmad Darwish	<i>Quantum Computing in Finance: Current Status and Future Prospects – A Comprehensive Review</i>	Submitted

AREAS OF INTEREST

- High Energy Physics
- Quantum Computing
- Quantum Machine Learning
- Quantum Consciousness
- Mathematical Modeling
- Computational Physics Simulation

- Artificial Intelligence & Machine Consciousness
- Computer Vision
- Data Science

PROFESSIONAL EXPERIENCE

- Working as Assistant Professor at Centre for High Energy Physics, University of the Punjab, Lahore.
Teaching following course to BS and MPhil classes
 - Computational Physics Simulation I
 - Computational Physics Simulation I Lab
 - Computational Physics Simulation II
 - Computational Physics Simulation II Lab
 - Electronics
 - Digital Electronics
 - Analytical geometry and Integral calculus
 - Scientific Computation I
 - Scientific Computation II
 - Mathematical methods I
 - Mathematical methods II
 - Discrete mathematics
 - Introduction to computer science
 - Advanced mathematical methods
 - Computer programing
 - Advance computer programming
- Worked as Lecturer in Department of Computer Science, GC University, Lahore.
Taught following courses to BS and MS classes.
 - Numerical & Symbolic Computing
 - Parallel and Distributed Computing
 - Quantum Computing
 - Algorithm Analysis
 - Artificial Intelligence
 - Visual Programing
 - Introduction to Computing
- Visiting Lecturer in **National College of Business Administration and Economics, Lahore.**
Taught following courses to BS class.
 - Artificial Intelligence
 - Data Structures and Analysis of Algorithm
- Worked as Visiting Lecturer in “College of Technology”, **University of Lahore.**
Major Subjects taught to B.Tech
 - Electronics
 - Applied Physics.
- Worked as Lecturer Scholar College Shadman Chowk Lahore.
- Worked as an Internee in **School Education Department, Civil Secretariat, Lahore** through **National Internship Program of Punjab Government, Pakistan.**

PERSONAL PROFILE

- Father’s Name: Barkat Ali
- NIC No: 35101-1267214-1
- Date of Birth: Nov 15, 1986

- Place of Birth: Kasur, Pakistan
- Marital Status: Married