CURRICULUM VITAE

First name :   **Muhammad Waqas**
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I am a persistent person, who seeks new challenges and strives to find suitable solutions regardless of the relevant field of application. I strongly believe that acquiring a problem-solving skill by considering heterogeneous tasks is a crucial skill in learning and research. Independence is another strong feature of my personality: I set my goals and organize my work in order to achieve them. However, I have had the opportunity to work many times as a member of different project groups and I am deeply convinced of the great importance of teamwork in a research environment, where a constructive attitude and an open mindset are of great value.

ACADEMIC QUALIFICATION

Visting Scholar	2024 - Present

PURDUE UNIVERSITY , FORT WAYNE, IN, USA

Quantum Computing, Deep Learning, Machine Learning, Artificial Intelligence, Time Series Analysis, Computer Vision, Quantum Annealing, Optimization Problem, Automotive Suspension, 2D, 3D , Design Modeling

SUMMER SCHOOL on QUANTUM INFORMTION	2023 (1 Week)

JULICH Forschungszentrum | SUPERCOMUTING CENTER |JUNIQ (QUANTUM USER FACILITY) , GERMANY

Summer School on Quantum Information Processing.

SUMMER SCHOOL on AI	2023 (1 Week)

UNIVERSITY OF LJUBLJANA, LJUBLJANA, SOLVENIA

European Summer School on AI (ESSAI)& 20th Advanced Course on AI organized jointly as 3rd TAILOR Summer School on Artificial Intelligence.

Ph.D. in Computer Science and Engineering	2022 -Ongoing(Last Year)

UNIVERSITY OF BOLOGNA, ITALY

Quantum Computing, Deep Learning, Machine Learning, Artificial Intelligence, Time Series Analysis, Computer Vision, Quantum Annealing, Optimization Problem, Automotive Suspension, 2D, 3D , Mathematical and Design Modeling.
Ph.D. Thesis: Quantum Computing | AI | Modeling | Algorithm | Optimization Problem

MS Artificial Intelligence	2019-2022

AIR UNIVERSITY, ISLAMABAD, PAKISTAN

Deep Learning, Machine Learning, Artificial Intelligence, Time Series Analysis, Computer Vision

Dissertation : Sales Prediction of Cardiac Products by Ensemble of Time

Series, Deep Learning and Data-Driven Approaches

BS Computer Science	2015-2019

PMAS ARID AGRICULTURE UNIVERSITY (UIIT), RAWALPINI, PAKISTAN

Oracle Database, Web Development, Software Engineering, C++, CCNA
System Administrator, Data Structure

Dissertation: **Super Smart Glasses (A replica of Google Glasses with extra features)**

A+ Fiber Optic System	2017

PUNJAB TECHNICAL EDUCATION COMMISSION, LAHORE

Fiber Optic System, Fiber Connection, Antennas

FSc. (Pre-Engineering) HSSC – Federal Council	2012-2014

FAIRY TALE   INTER COLLEGE CHAKLALA (RAWALPINDI)

Physics, Mathematics, Chemistry, English

Matric (Comp. Science) SSC - Federal Council	2010-2012

FAZAIA INTER COLLEGE CHAKLALA (RAWALPINDI)

Computer Science, Mathematics, English

PUBLICATIONS

- Arshad, M. W., Lodi, S., & Liu, D. Q. (2025). Multi-Objective Optimization of Independent Automotive Suspension by AI and Quantum Approaches: A Systematic Review. Machines, 13(3), 204. https://doi.org/10.3390/machines13030204

- Arshad, M. W., & Lodi, S. (2024, September). Optimization of Double Wishbone Suspension: Evaluating the Performance of Classes of Algorithms. In *2024 International Conference on Applied Mathematics & Computer Science (ICAMCS)* (pp. 156-161). IEEE Computer Society.

- Arshad, M. W., Murtza, I., & Arshad, M. A. (2023). Applications of Quantum Computing in Health Sector. JDSIS, 1(1), 19–24. doi: 10.47852/bonviewJDSIS3202656

- Phatak, S.S., Patil, H.S., Arshad, M.W., Jitkar, B., Patil, S., & Patil, J. (2022, December). Advanced Face Detection using Machine Learning And AI-based Algorithm. In 2022 5th International Conference on Contemporary Computing and Informatics (IC3I) (pp. 1111-1116). IEEE.

- Bhardwaj, I., Biswas, T. R., Arshad, M. W., Upadhyay, A., & More, A. B. (2024). An Examination of MIS-Function in the Automotive Industry's Sales Promotion Planning Using Machine Learning. *Library Progress International*, *44*(3), 3164-3170.

- Arshad, M. W. (2024). Combination of Multi-Attributive Ideal-Real Comparative Analysis and Rank Order Centroid in Supplier Performance Evaluation. *KLIK: Kajian Ilmiah Informatika dan Komputer*, *4*(4), 2330-2341.

- Arshad, M. W., Setiawansyah, S., & Sintaro, S. (2024). Comparative Analysis of the Combination of MOORA and GRA with PIPRECIA Weighting in the Selection of Warehouse Heads. *BEES: Bulletin of Electrical and Electronics Engineering*, *4*(3), 112-122.

- Arshad, M. W. (2024). Implementation of Entropy and Additive Ratio Assessment Methods in Determining the Best Warehouse Location. *Bulletin of Computer Science Research*, *4*(4), 318-326.

- Arshad, M. W., Setiawansyah, S., Suryono, R. R., & Rahmanto, Y. (2024). Combination of CRITIC Weighting Method and Multi-Atributive Ideal-Real Comparative Analysis in Staff Admissions. *Explorer*, *4*(2), 77-86.

- Arshad, M. W., Setiawansyah, S., Rahmanto, Y., Palupiningsih, P., & Maryana, S. (2024). Modification of Multi-Attribute Utility Theory in Determining Scholarship Recipient Students. *BEES: Bulletin of Electrical and Electronics Engineering*, *5*(1), 10-19.

- Hadad, S. H., Subhan, S., Setiawansyah, S., Arshad, M. W., Yudhistira, A., & Rahmanto, Y. (2024). Combination Of Logarithmic Percentage Change-Driven Objective Weighting and Multi-Attributive Ideal-Real Comparative Analysis In Determining The Best Production Employees. *Jurnal Teknik Informatika (Jutif)*, *5*(3), 843-853.

- Arshad, M. W., Sintaro, S., Rahmanto, Y., & Wantoro, A. (2024). Optimization of Alternative Assessment with Modified MOORA Method: Case Study of Contract Employee Selection. *KLIK: Kajian Ilmiah Informatika dan Komputer*, *4*(6), 3099-3107.

- Putra, A. D., Arshad, M. W., Setiawansyah, S., & Sintaro, S. (2024). Decision Support System for Best Honorary Teacher Performance Assessment Using a Combination of LOPCOW and MARCOS. *Journal of Computer System and Informatics (JoSYC)*, *5*(3), 578-590.

- Muda, I., Almahairah, M. S., Jaiswal, R., Kanike, U. K., Arshad, M. W., & Bhattacharya, S. (2023). Role of AI in Decision Making and Its Socio-Psycho Impact on Jobs, Project Management and Business of Employees. Journal for ReAttach Therapy and Developmental Diversities, 6(5s), 517-523.

- Arshad, M. W. (2023). Detection Of Human Gender from Eyes Images Using DNN Approach. Jurnal Teknoinfo, 17(2), 336–340. doi: 10.33365/jti.v17i2.2457

- Arshad, M. W. (2023). Prediction And Diagnosis of Breast Cancer Using Machine Learning and Ensemble Classifiers. Central Asian Journal of Mathematical Theory and Computer Sciences, 4(1), 49-56.

- Arshad, M. W., & Tahir, S. F. (2022). Sales Prediction of Cardiac Products by Time Series and Deep Learning. International Journal of Innovations in Science & Technology, 4(5), 1-11.

- Dubey, A., Mujoo, S., Hannan, S. A., Satpathy, G., Arshad, M. W., & Manikandan, E. (2022). Cancer prediction using RNA sequencing and deep learning. International journal of health sciences, 6(S8), 4925-4939.
- Hannan, S. A., Hivre, M., Lata, M., Krishna, B. H., Sathyasiva, S., & Arshad, M. W. (2022). Brain damage detection using Machine learning approach. International Journal of Health Sciences, Special, (7), 4910-4924.

REVIEWER &TECHNICAL PROGRAM COMMITTEE MEMBER

- Technical Committee Member of icSoftComp2024 (Sixth International Conference on Soft Computing and its Engineering Applications) Springer
- Reviewer role in the Journal " International Journal of Mining Science and Technology "Q1
- Reviewer role in the Journal "IET Quantum Communication" Q1
- Reviewer role on the Journal " Neural Computing and Applications " Q1
- Reviewer role on the Journal "International Journal of Intelligent Information Systems"
- Reviewer role in the Journal " Asian Journal of Education and Social Studies "
- Reviewer role in the Journal " Journal of Data Science and Intelligent Systems (JDSIS)"
- Reviewer role in the IEEE Conference " 3RD INTERNATIONAL CONFERENCE ON
- ENGINEERING & COMPUTING TECHNOLOGIES, ICECT 2024 "
- Reviewer role in the IEEE Conference "4th International Conference on Computing and Information Technology (ICCIT)"
- Reviewer role in the IEEE Conference "8[th]IEEE International Conference on Industrial Cyber-Physical Systems"

PERSONAL SKILLS	TECHNICAL SKILLS
- Teamwork & Leadership	**Languages** Python, R, SQL, Wolfram
- Communication Skills	**Utensils** Mathematica, SPSS, Oracle, MATLAB, Latex
- Troubleshooting	
- Microsoft Office Skills	

- Fast Learner
- Honesty and Integrity
- Self-confidence
- Positive Attitude/Motivation/Passion

MEMBERSHIP

- Member of the Institute of Electrical and Electronics Engineers **(IEEE)**
- Member of the American Society for Testing and Materials International (ASTM)
- IEEE Young Professional
- Joining the Big Data Community, IEEE
- Membership of the ezxprt (Secretary General)
- Blood Donar Society membership (senior member)
- Autodesk Education Community Membership
- Membership in the National Youth Association (Ambassador)
- Member of the United Nations Volunteers
- Member of Power Pakistan (Vice President)
- Member of Reed Pakistan (Ambassador/IT Consultant)
- Member of LIFT Pakistan
- Ambassador in Jump Start up Pakistan
- Member of the international Internet of Things community
- Ambassador to Lagan
- Ambassador of Act of Kindness Islamabad Chapter
- Member of the International Blockchain Community, IEEE
- Member of the International Entrepreneurship Exchange Community
- Member of the Blockchain Entrepreneurial Lounge
- Member of World Smile Archive (Ambassador)
- Senior member of the Pakistan National Youth Assembly
- Member of the American Physical Society
- Member of High Scope America
- Member of the Internet Society
- Individual Associate Member of CIVICUS (International)
- Lead Member of Dream PAKISTAN
- YCDN (Youth Community Development Network) Ambassador
- Member of Internet Organization (South-Asia)
- Ambassador of the State Youth Parliament
- **Selected as Global Peace Ambassador**
- MAPS Ambassador

ACHIEVMENT / COURSES

- ICSI Certified Network Security Specialist
- Google Certified IT Support Specialist
- Certified IBM AI Engineering

- **Nutanix Hybrid** Cloud Scholarship Winner
- Autospy Basics and Practice (8 hours)
- Communication During Emory University's Global Emergency
- COVID-19 contact tracing certified by Johns Hopkins University
- Google Cloud Platform Fundamentals for AWS Professionals Certification
- Machine Learning for Business Professional certified by Google Cloud
- Mathematical skills in data science certified by Duke University
- Successful Career Development by the University System of Georgia
- Google-certified technical support basics
- **Klipfolio Certified Expert**
- Microsoft Advertising Certified Professional
- SEMrush Social Media Toolkit Certified Exam
- Computer Vision at the University at Buffalo
- Artificial intelligence certified by Accenture UK
- Computer Programming for All by the University of Leeds
- Code yourself! An Introduction to EDINGURGH University Programming

- Oracle Database Developer Certificate (Oracle)
- Learn to Code for the Web at the University of Leeds
- Google-certified advanced Google Analytics
- Google Analytics Certificate for Beginners from Google
- Google Analytics Certificate for Power Users from Google
- SEMrush Advanced Users Certified SEO Toolkit Exam
- Spoken English Program (NICON GROUP OF COLLEGES)
- Basic IT Power Pack (NICON GROUP OF COLLEGES)
- Microsoft Word Specialist (Microsoft Company)

- Attend the Seminar on NETWORKING AND MICROSOFT
- CCNA (Cisco Network Academy & Ezxprt)
- Car Rental Management System (Oracle Database Management System)
- Qualification on the Fundamentals of Online Marketing (Google)

- Word Press Website 2016 New Divi Theme 3. Course (Udemy)
- Microsoft Virtual Academy Certificate of Deliver Mission Critical, Highly Available,
- Microsoft Virtual Academy Certificate of Exam over 70-532 (Microsoft Azure Development)
- SQL Online Certificate from STANFORD UNIVERSITY

- Certificate in Computer Science 101 from STANFORD UNIVERSITY
- **Oxford Home Study College Hotel Management Course**
- SQL Course from PICS
- MS Excel 2013 - Performing Calculations Using Skillsoft Functions

- CISCO Packet Tracer Tool Certification
- Participation in the START UP NEW IDEA of the ALLAMA IQBAL OPEN UNI

- **6 Months Fiber Optic Technology** by PSDF
- **CCTVISSS technology**

- Training on Development Governance Issues and the Way Forward from NCRD
- HUMAN CAPITAL STRATEGY certification from the UNIVERSITY OF PHILANTHROPY

- Big Data Technology Certification by AWS (Amazon Web Services)
- **Oracle 11gSQLcourse by PMAS ARID UNIVERSITY RAWALPINDI**

- **BLOCKCHAIN** course of HEC&PMAS ARID UNI RWP
- KarafarinShow Entrepreneur Show 2018 **Certificate of Appreciation**

- **Rawalpindi Rising Star Award**
- Attend the seminar on "Working in Electronic Media" by JAAGO HD TV Channel.
- Organize a Shab-e-Mastana event (Main Organizing Committee)
- Attend the first Block-Chain Technology Conference in Pak.

- Participate in Pakistan's first National Youth Development Report
- PAK-USA Embassy Cultural Exchange Program Event Certificate
- Selected for Asia Youth International MUN
- Selected for the International Future Leader Congress 2018

- Ambassador to Rawalpindi Ideas Students Expo
- Ambassador at the Connected Pakistan Conference
- MAPS Ambassador
- Awarded as Global Peace Ambassador 2019-2022

EXPERIENCE

- **Purdue University, Fort Wayne, IN, USA (Present)**
  Visiting Research Scholar (I'm specializing in Quantum Computing, AI, and Machine Learning focuses on applying advanced technologies to challenges in Time Series Analysis, Computer Vision, and Automotive Suspension. I integrate 2D and 3D Design Modeling into my research to drive innovation in both academia and industry**.**

- **FERRARI, Maranello, Italy (Present)**
  PhD Research Scholar (My PhD involves a collaboration between the University of Bologna, Italy and Ferrari Company, which allows me to work on Quantum Computing research focused on optimizing the problems defined by the company. Currently, I am working with Ferrari and using my experience for further research in this area)

- **NORWICH Pharmaceuticals, Islamabad, Pakistan (2018-2023)**
  Head of the IT, Warehouse & Research Department (As Head of IT, Warehouse, Administration, Import & Research, I have a wide range of responsibilities within the company. Activities include IT infrastructure management, oversight of software applications and hardware assets, technical support to employees, and data security. In addition, I oversee warehouse operations, including receiving, inventory management, and order fulfillment. I take care of administrative functions such as record keeping, office logistics, and budgeting. In the import department, I coordinate the import process, ensuring compliance with regulations and managing documentation. Finally, I lead and coordinate research activities, collaborating with scientists and contributing to drug discovery and product development. Overall, my role involves effectively managing these departments to ensure smooth operations, efficient processes, and positive outcomes).

- **PROMED International, Islamabad, Pakistan (2019-2023)**
  Head of the Store Department and IT Consultant (As Head of the Store Department, I oversee all warehouse activities, including decision support for financial forecasting and profit and loss analysis. In addition, I handle requests for the import of stents and balloons from abroad. My responsibilities also extend to the development of software and web applications for efficient data analysis and management within the company.)

- **Internet Society of Organization Blockchain Special Interest Group (2018-Present)**
  Head of the General Secretariat (I am an active part of the blockchain chapter of the Internet society as the main body, working on the SOP and the laws regarding the ethical use of blockchain technology and also responsible for their administrative activities)

- **Space of Peace Organization, Turkey (registration 27-020-028) (2019-2020) Communications Manager:** Main task: To do a data collection of the funding organization Pakistan and to make meetings with them for charitable donations.

- **PMAS ARID Agriculture University Rawalpindi (UIIT Dept.) Pakistan (2019) Ethical Hacking Instructor** course with the aim of covering related topics test penetrating, hacking websites and Android, role of ethical hackers in a society.

- **National Highway Authority Headquarters, Islamabad, Pakistan (Internship) (2018-2019)**
  Software developer has made several database management applications for the tracks of different projects such as road construction and recognition and detection of vehicles crossing the toll booth.

- **Fauji Foundation, Rawalpindi, Pakistan (internship) (07-2018 to 09-2018) Software developer**, worked on database management by upgrading their systems, working on the payroll management system, and learning data analytics tools, how to manage big data.

- **Nishat Degree College Islamabad, Pakistan (2015-2017)**
Computer teacher, teaches the student of a higher degree class, does the laboratories and practical work, and teaches different computer languages with the basic conceptual module to advance, receives appreciation of the best computer teacher.

HOBBIES/INTEREST

- Cricket
- Badminton
- Reading/Internet Search
- Soccer player

LANGUAGES

- English (Fully Professional)
- Italian (Beginner)
- Urdu (Expert)
- Hindi (Expert)
- Arabic (Beginner)

SOCIAL MEDIA

- LinkedIn Profile: https://www.linkedin.com/in/muhammad-waqas-arshad-5359b4139/
- Google Scholar: https://scholar.google.com/citations?user=OS3p2-0AAAAJ&hl=it
- ORCID : https://orcid.org/0000-0003-3262-5833
- Home Page : https://www.unibo.it/sitoweb/muhammadwaqas.arsha2/publications

REFERENCES

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Stefano.lodi@unibo.it

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Air University, Islamabad, Pakistan
fahad.tahir@au.edu.pk