Arshia-Naeem

27-10-2025 | arshya.naeem@gmail.com

DEGREES

Master of Science in Computer Science

Lahore College for Women University [2015 – 2017]

· **Address:** Lahore (Pakistan): https://www.lcwu.edu.pk/computer-science-programs.html

· **Final grade**: 3.74 out of 4.0 (*Third Position & Roll of Honor)*

· **Thesis Title:** Development of an Efficient Hierarchal Clustering Analysis using Agglomerative Clustering Algorithm

· **Achievement:** Published the Research article naming "Development of an efficient hierarchical clustering analysis using an agglomerative clustering algorithm." In an international journal CURRENT SCIENCE 117, no. 6 **(2019).**

Bachelor of Science (Hons.) in Computer Science

Lahore College for Women University [2011 – 2015]

· **Address:** Lahore (Pakistan): https://www.lcwu.edu.pk/computer-science-programs.html

· **Final grade:** 3.62 out of 4.0

· **Project Title:** A Web-Based Agriculture Information System

· **Achievement:** Published the Research article naming "An Integrated information system to facilitate farmers in wheat, sugarcane, and other crop diseases identification". Pakistan Journal of Agricultural Research 29, no. 4 **(2016).**

LANGUAGE SKILLS

Urdu (Native), English (Fluent), Punjabi (Native)

CURRENT EMPLOYMENT

Senior Lecturer (Computer Sciences)

Department of Computer Science, University of Central Punjab [09/2024 – Present]

Country: Pakistan

◦ Design, develop, and deliver a range of programs of study (sometimes for entirely new courses) at various levels.
◦ Review course content and materials regularly, updating when required.
◦ Develop and apply appropriate teaching techniques and material, which create interest, understanding, and enthusiasm among students.
◦ Ensure that course design and delivery comply with the quality standards and regulations of the university and department.

Member (Lab Evaluation Committee) – Additional charge

Department of Computer Science, University of Central Punjab [03/2025 – Present]

Country: Pakistan

◦ Evaluate the competency, availability, and responsiveness of technical staff and the effectiveness of current maintenance procedures.
◦ Determine necessary upgrades, expansions, or new equipment acquisitions to support evolving academic and research programs (e.g., specialized labs for AI, cybersecurity, or advanced robotics).
◦ Develop a long-term plan for technology refresh cycles and the integration of emerging technologies into the lab environment
◦ Ensure that the lab facilities and software are directly supporting the learning outcomes of specific Computer Science courses
◦ Generate a detailed evaluation report summarizing findings, highlighting successes, identifying weaknesses, and detailing specific recommendations for improvement.

PREVIOUS WORK EXPERIENCE

Senior Lecturer (Computer Science)

Department of CS & IT, Gold campus, Superior University [02/2022 –09/2024]

Country: Pakistan

◦ Design, develop, and deliver a range of programs of study (sometimes for entirely new courses) at various levels.
◦ Review course content and materials regularly, updating when required.
◦ Develop and apply appropriate teaching techniques and material, which create interest, understanding, and enthusiasm among students.
◦ Ensure that course design and delivery comply with the quality standards and regulations of the university and department.

Achievement:

◦ Taught **150+ students each semester** with Computer Science core courses as per departmental allocation also the curriculum is

designed **on specific Project-based learning outcomes**.

 ◦ **Yearly 300+ Students** are trained with not only the completion of coursework but the projects relevant to the assigned core courses. **Almost 5-10 numbers of projects are yearly executed under my Supervision**.

Quality Circle Head (QCH)

Department of CS & IT, Gold campus, Superior University [08/2021 –09/2024]

Country: Pakistan

 ◦ Responsible for maintaining the quality of undergraduate courses including Operating Systems, Logic & Architecture in the Cs & IT Department.
 ◦ Implementing Project Based Learning PBL for Core Courses in Computer Science.
 ◦ Ensuring the implementation and execution of updated curriculum for the courses as per Higher Education Commission Criteria (HEC), Pakistan defined Criteria.

Achievement:

 ◦ Each semester Course learning outcomes (CLOs) mapping in almost 5 courses in 3 major departments CS, SE, and IT is ensured.
 ◦ The implementation of CLOs at Bloom's Taxonomy level in every assigned course is the major target.
 ◦ **Yearly 10 Courses** and all the assessments including Midterm, Final Term exams, assignments, Quizzes, and Projects are fully mapped as per Bloom's Taxonomy level.

Entrepreneurial Instructor

Chaudhary Muhammad Akram Center for Entrepreneurship and Development (CMACED), Superior University [08/2021 –09/2024]

Country: Pakistan

 ◦ Deliver instruction on topics such as entrepreneurial Mindset, Ideation, Creativity, and Innovation the principles of marketing, how to operate a business, and the financial aspects of a business.
 ◦ Tech business topics such as basic business rules and regulations for startup ideation and its phase-wise implementation, the latest trends and requirements as a software engineer in the global market, and facts about the business.
 ◦ Deliver the skills and knowledge necessary for students to function as responsible citizens in the business world.
 ◦ Hold sessions and lectures at the local organization Chaudhary Muhammad Akram Center for Entrepreneurship and Development (CMACED), Lahore Pakistan.

Achievement:

 ◦ **Supervision of 70+ Students** and **yearly almost 140 students** per semester, and trained them **for startup and scale-up their entrepreneurship ideas**.
 ◦ From August 2021 to date **24 Startup project ideas** have been executed **under my supervision**. The ideas are relevant to **sustainable development, climate change, and meta-verse and agriculture growth Startup projects**.

Coordinator Business-Head

Apna Microfinance Bank [09/2017 –03/2018]

Country: Pakistan

Back-end Support Executive

Abacus Consulting [03/2017 –08/2017]

Country: Pakistan

 ◦ Database management
 ◦ Service Request Handling
 ◦ Email correspondence
 ◦ Relevant Reporting

Project Developer (Internee)

The Eye Associates [05/2016 –08/2016]

Country: Pakistan

 ◦ Worked as a System Developer.
 ◦ Developed an online EMR system for the use of clinical facilities of doctors and other health care professionals.
 ◦ A clinical system for clinical facilities of doctors and other health care professionals consists of an online EMR. The system allows one to input patient records, submit insurance claims, online surgery appointments, online clinical checkups and manage patient receivables. Java Servlet/Strus2, My-Eclipse 10 tool, MySQL Workbench.

RESEARCH FUNDING AND GRANTS

[1]. At SEE PAKISTAN 2024 a National Startup Championship Competition organized by Superior University, Our Startup Secured 0.2 Million Funding under the category of Ideation Stage Champion, Fazal Mohyud Din (Team Leader)*, Ms. Arshia Naeem (Startup*

Instructor), Startup: "*Virtual influencer*" startup is pioneering a new era of digital marketing where AI-powered virtual influencers become key players in building strong brand identities and engaging with consumers in a more personalized and impactful way, Sep 2024.

[2]. IGNITE National Technology Fund ShortlistedFYPs, National Grassroots ICT Research Initiative (NGIRI), Hamza Bashir (Team Leader), Malik Muneeb (Member), Hamza Sohail (Member), and **Ms. Arshia Naeem (Project Supervisor)**, Research Project: "*Dynamic Sun Tracking Solution*" system uses sun-tracking technology to optimize panel angles, maximizing energy capture and enhancing efficiency for a sustainable future. 2023-2024.

[3]. .IGNITE National Technology Fund Shortlisted FYPs, National Grassroots ICT Research Initiative (NGIRI), Mudaser Khalid (Team Leader), Azeem Akhtar (Member), Asad Aziz (Member), and **Ms. Arshia Naeem (Project Supervisor)**, Research Project: "*ETMS Effortless Traffic Management System*" An AI-powered solution designed to transform urban traffic management. It reduces congestion, enhances road safety, and prioritizes emergency vehicles like ambulances. ETMS offers real-time monitoring, predictive analytics, and adaptive traffic control, making it efficient for cities of all sizes. With user-friendly features and scalability, ETMS improves transportation networks, ensuring faster response times and better road safety for all, 2023-2024.

[4]. IGNITE National Technology Fund, PKR 82,000 National Grassroots ICT Research Initiative (NGIRI), Zohaib Rafique(Team Leader), Muhammad Usman(Member), Danish Safdar(Member), Noor Fatima(Member) and **Ms. Arshia Naeem (Project Supervisor)**, Research Project: "*Locomotion for Gaming*" A Metaverse game connecting physical movement with virtual movement of Avatar. 2021-2022.

[5]. IGNITE National Technology Fund, PKR 82,000 National Grassroots ICT Research Initiative (NGIRI), Talha Ali (Team Leader), Ahmad Amanullah (Member), Sami-ur-Rehman (Member), and **Ms. Arshia Naeem (Project Supervisor),** Research Project: "*Ever-Tracker*" AI-based Interactive Game for promoting the awareness and challenges about deforestation in Pakistani Region. 2021-2022.

Project ID	Startup/Project Name	Funded Amount
(**NGIRI-2024-26893**)	Dynamic Sun Tracking Solution	**In process**
(**NGIRI-2024-27642**)	ETMS Effortless Traffic Management System	**In process**
(**NGIRI-2022-14544**)	Locomotion of Gaming	*almost 357.54USD*
(**NGIRI-2022-14591**)	Ever-Tracker	*almost 357.54USD*

[5]. At NSC 2022 a National Startup Championship, Superior University, PKR 10,000, Zohaib Rafique (Team Leader), Muhammad Usman(Member), Danish Safdar(Member), Noor Fatima(Member*), Ms. Arshia Naeem (Project Supervisor),* Grant: "*SAGAWERE*" A Metaverse game connecting physical movement with the virtual movement of Avatar, Aug 2022.

RESEARCH OUTPUT

Journal Publications

Naeem, Arshia, Mariam Rehman, Maria Anjum, and Muhammad Asif. "Development of an efficient hierarchical clustering analysis using an agglomerative clustering algorithm." CURRENT SCIENCE 117, no. 6 (2019): 1045.

Naeem, Arshia, Maria Anjum, Mariam Rehman, Zahid Mahmood, and Muhammad Asif Kamran. "AN INTEGRATED INFORMATION SYSTEM TO FACILITATE FARMERS IN WHEAT, SUGARCANE AND OTHER CROP DISEASES IDENTIFICATION." Pakistan Journal of Agricultural Research 29, no. 4 (2016).

Peer-reviewed Conference Papers, Journal Papers, and Notes

Journal: Title: Ultra-Fast and Accurate Multi-Touch Tracking Algorithm for a large Number of Points. IEEE Access 2019.

RESEARCH SUPERVISION & LEADERSHIP EXPERIENCE

Supervised Projects/Startups (Undergraduate)

Title	Project/Start-up details	Session
Virtual Influencer	The project is about creating hyper-realistic and as per user needs customized virtual models that can interact within the Metaverse. The nature of the models will be more than simple avatars; they will be dynamic, expressive, and capable of independent decision-making where needed.	Startup 2024
ETMS Effortless Traffic Management System	The Effortless Traffic Management System (ETMS) is an AI-powered solution designed to revolutionize traffic control in urban areas. By utilizing real-time data from cameras and sensors, it dynamically adjusts traffic signals to optimize flow, reduce congestion, and prioritize emergency vehicles.	Project 2024
Diagnosis of Conjunctivitis/Pink Eye using AI-technique	Using AI technology to potentially improve the diagnosis of conjunctivitis and contribute to better eye care. The project core objectives include: Develop comprehensive literature on conjunctivitis diagnosis. Accurately predict difference between conjunctivitis-affected and	Project 2024

	healthy eyes. Address class imbalances and identify complex patterns in datasets.	
AI-based Flood Monitoring and Warning System	The project aims to create a system that can accurately detect and predict flooding events in real-time, allowing for early warnings to be sent out to those at risk. The system will use machine learning algorithms and remote sensing data to monitor water levels and weather conditions in flood-prone areas.	Project 2023
AI based System for human Emotion detection:	This project consists of an AI system that can effectively able to recognize the emotions from audio, enabling applications such as personalized user experiences and improve human-computer interaction. This project features an innovative AI system for detecting human emotions from voice audio, enabling users to upload files for detailed emotion analysis and engage in real-time emotion detection through live recording.	Project 2023
SHOPNEST (Intelligent Application to facilitate users with customized product purchase Features)	This project targets a local shoe manufacturing business in Lahore and plans to convert it into an online e-commerce platform. The object is offer online services: Product Customization: Allowing customers to personalize their shoe orders. AI-Powered Recommendations: Utilizing AI and machine learning to suggest relevant products to customers.	Project 2023
Health Guardian	The project consists of a comprehensive healthcare-based solution that integrates the idea of using AI assistant to facilitate both patients and doctors. Its key features include User-centric interface for patients to receive the initial disease predictions. AI-powered diagnostics using ML algorithms and comprehensive medical database to generate accurate disease predictions. Also ensures the availability of personalized medication recommendations based on patients' profiles and predicted conditions.	Project 2023
Skill Mesh	A decentralized freelancing website aims to revolutionize the gig economy by leveraging block chain technology and decentralized principles to create a platform that prioritizes transparency, security, and fairness for both freelancers and clients.	Project 2023
AI BASED INTERACTIVE GAME	In today's world, deforestation is a major issue that is affecting the environment, society, and economy. Pakistan is one of the countries that are losing forest land at an alarming rate. With approximately 66718 acres of forest land lost yearly, it is crucial to raise awareness about this issue and encourage action towards the conservation of Pakistan's forests. To address this issue, a game using Unity 3D and C# scripting is proposed. The game will educate players about the issue of deforestation and its impacts on the environment and society through realistic graphics based on real events and locations in Pakistan.	Startup 2022
Sagawere	Sagawere is gaming software use for playing games in virtual environment with your hand gestures and body motion. Sagawere provides virtual controllers for different games of which user can easily download or start to enter in virtual reality. By introducing this technology we will collaborate with Metaverse because Sagawere has capability to connect physical movement with virtual movement of Avatar.	Start-up 2022
Content based Movie Recommender System:	The idea to promote more efficient and effective filtering based on user's preferences for specific attributes. The attributes include:Genre, Director, Keywords. The idea consists of AI Algorithms for Content-Based Filtering consist of two modules 1. NL for test Analysis that includes: Text Vectorization, TFID, Word2 Vec, Transformer models, Sentiment analysis, and Topic modeling. 2. Machine learning for similarity calculation that includes: Cosine similarity, Euclidean Distance, and KNN.	Project 2022
E-Commerce Store	The project aims to create a user-friendly and robust platform that uses the modern technology aspects to enhance the shopping experience more effectively. The project development technology includes multilayered architecture for designing the application for better organization.	Project 2022
KIDNEY CENTER EMR SYSTEM	The proposed EMR system will able to assist doctors, patients, pharmacist, lab assistant, and management. The proposed EMR system is better in usability for e-prescribing, assist doctor to maintain appointments or to see reports, help pharmacist to maintain stocks and sales, guide lab assistant to make reports.	Project 2019

Teaching Experience (Undergraduate)

Semester	Institute	Course Code, Title	Class Size
Spring 2025	University of Central Punjab,	CSCS4573, Compiler Construction CSDB2313, Introduction to Database Systems CSDB2313, Introduction to Database Systems	40 28 42
Fall 2024	University of Central Punjab,	CSCS4573, Compiler Construction CSSE3113, Introduction to Software Engineering CSSE3113, Introduction to Software Engineering	44 41 45
Spring 2023	Superior University,	CS-403, Computer Organization & Assembly Language	75

Term	University	Course	Count
		CS2403, Computer System Architecture	21
		Technopreneurship	96
Fall 2022	Superior University,	CS-403, Computer Organization & Assembly Language	136
		Introduction to Logic	61
		Technopreneurship	75
Spring 2022	Superior University,	CS3414, Operating Systems	115
		Technopreneurship	70
Fall 2021	Superior University,	CS-403, Computer Organization & Assembly Language	91
		Technopreneurship	66
Spring 2021	Superior University,	CS2403, Computer System Architecture	46
		CS3414, Operating Systems	86
Fall 2020	Superior University,	CS3414, Operating Systems	267
Spring 2020	Superior University,	CS2403, Computer System Architecture	258
Fall 2019	Superior University,	CS3414, Operating Systems	168
Spring 2019	Superior University	CS-508, Compiler Construction	49
		CS-503, Theory of Automata	147
Fall 2018	Superior University	CS3414, Operating Systems	134
		Technopreneurship	78
Spring 2018	Superior University	Information Systems Audit	100
		CS-303, Programming Fundamentals	74

Salient Contributions as a Teacher

Designed the course of Information Systems Audit (CS+SE, Ugrad) at Superior University and taught it in spring [2018].
Taught Computer Organization & Assembly Language (Undergrad) at Superior University, In Summer Session [2022].
Taught Computer Architecture (Undergrad) at Superior University, In Summer Session [2020].
Taught Operating Systems (Undergrad) at Superior University, In Summer Session [2019].
(My Final Years Projects (student evaluations) have consistently and significantly exceeded departments' averages)
Lab Courses: Programming Fundamental, Computer Organization & Assembly Language – Superior University, (I also designed the lab manuals for these courses from scratch).

AWARDS AND HONORS

Awarded with Rector's Performance of Excellence Award 2021 as "**Outstanding Performer**" of the year in the CS Department, Superior University, Lahore Pakistan. [2021]
Secured **3rd Position in MS-C**S Batch [2015-2017].
Achieved **Roll of Honor at 14th Convocation** of Lahore College for Women University.
Secured **Continuous 1st Division** from 1st Semester to 8th Semester in Bachelor's session [2011-2015].
Secured **4GPA in 19 courses** in Bachelor's session [2011-2015].
Secured **4GPA 1st Division in Finale Year Project of Bachelor of Science (Computer Science)** out of 80 students of batch [2011-2015].
Awarded with Laptop under CM Punjab Merit Laptop Distribution Scheme [2011].
Achieved Guard of Honor at Laptop Distribution Ceremony 2011 at Lahore College for Women University on 26th March [2011].

CERTIFICATIONS

C for Everyone: Programming Fundamentals	see Certificate
C for Everyone: Structured Programming	see Certificate
Cracking the Creativity Code: Discovering Ideas	see Certificate
Introduction to Systematic Review and Meta-Analysis	see Certificate
Programming for Everybody (Getting Started with Python)	see Certificate

Academic/Professional Training/ Workshops

Participated in a 3-day Teaching Excellence Training Program at the **University of Central Punjab (UCP),** Lahore, Pakistan, from February 25-28, **2025**.
Participated in the Workshop on "*Computer Vision, Machine Learning, and its Applications through Edge Devices*" from 7th-9th June **2022** at NCRA-Agriculture Robotics Lab (NARL) Center for Water Informatics and Technology (WIT), **LUMS**, Lahore Pakistan.
Entrepreneurial Instructor in Coach Capacity Building Program 6th-12th August **2021** organized by **CMACED** (Chaudhry Muhammad Akram Center for Entrepreneurship Development),
Entrepreneurial Coach Training 2nd December 2019-5th January 2020 organized by **CMACED** (Chaudhry Muhammad Akram Center for Entrepreneurship Development), Lahore Pakistan.
Who COVID-19 Mass Gatherings *Risk Assessment Training*, August 31st, **2020**
Worked as **Coach** in Entrepreneurial Teaching & Training Program (ETTP), 2018 by Superior University Lahore, Pakistan.

[Outcome: My supervised **Two Potential Technopreneurship projects out of 200+ Projects** named "*Vehicle Safety System*" & "*Play with Learn*" **have been shortlisted** for Superior Entrepreneurial Expo, 2018.]

A poster presentation related to the Final Year project named "Agriculturist Facilitating System" was presented at the 5th Invention to Innovative Summit, March 2-3, 2016-University of Punjab, Lahore, Pakistan.

Workshop on Microsoft Azure Cloud Platform from 6th-8th January 2015.

Presented the **Final Year Project in a Seminar at Ayub Agriculture Research Institute**, Faisalabad, in June 2015 as a Research Student.

A poster Presentation related to the Final Year project named "Agriculturist Facilitating System" was presented at the 7th International Workshop on Field & Assistive Robotics at FAST-NUCES, Lahore, Pakistan, on October 17th-18th, **2014**.

PROFESSIONAL AFFILIATIONS

Member:

'Jury member' for Zindagi Prize Competition & prototype Competition at Entrepreneurial Expo 2.0 organized **by K-BIC Lahore College for Women University, Pakistan**
[May 2025]

Trainer and Mentor for '3-Day Pre-Incubation Bootcamp for Cohort II' organized by **K-BIC Lahore College for Women University, Pakistan.**
[Sep 2024]

'Jury member' at Entrepreneurial Expo 1.0 organized **by K-BIC Lahore College for Women University, Pakistan.**
[May 2024]

Invited as **Jury Member for Hult Prize Idea** Competition Hosts **by K-BIC Lahore College for Women University, Pakistan.**
[Feb 2024]

Trainer for the '3 Days-Entrepreneurial Training' as part of preincubation activities for cohort members **at K-BIC Lahore College for Women University, Pakistan.**
[Jan 2024]

Guest Lecturer and Trainer for the Freshman Program in instructional sessions focusing on the practical application of an **Entrepreneurial Mindset in Action** - Freshman Semester 24
[2024]

Guest Lecturer and Trainer for the Freshman Program in instructional sessions focusing on the practical application of an **Entrepreneurial Mindset in Action** - Freshman Semester 23
[2023]

Guest Lecturer and Trainer for the Freshman Program in instructional sessions focusing on the practical application of an **Entrepreneurial Mindset in Action** - Freshman Semester 22
[2022]

Evaluator in National Startup Competition 2022, NSC'22
NSC'22 is organized by **CMACED** (Chaudhry Muhammad Akram Center for Entrepreneurship Development), in partnership with **Venture Cup Denmark**.
[2022]

Judge and Evaluator in Initial Screening Round (ISR) conducted by Entrepreneurial Teaching and Training Program (ETTP) is promoting under the umbrella of CMACED, Lahore Pakistan for proposed business/startup ideas evaluation.
[March 2022]

SKILLS AND ABILITIES

Languages: Java, C#, C++, SQL, ASP, PHP, Visual Basic, HTML, CSS, JavaScript, Python
Databases: MySQL, SQL Server, Oracle.
Document Preparation: LaTeX, Microsoft Word, MS- Visio.
Tools: PyTorch, Microsoft SQL Server, Microsoft Visual Studio, Cisco Packet Tracer, MySQL Workbench, My Eclipse10. MATLAB, Weka.
Natural Languages: Urdu (native), English (fluent), Punjabi (native)