



Hafiz Muhammad Zeeshan

Nationality: Pakistani **Date of birth:** 15/06/1998 **Gender:** Male

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ABOUT ME

I am a passionate researcher with a strong foundation in renewable energy and medical physics, specializing in both experimental and computational techniques. I am seeking for a Ph.D position. My work has contributed to advancements in solar energy, energy storage, radiation therapy, and medical imaging. I am seeking a research position where I can leverage my expertise in data analysis, experimental design, and computational methods to drive innovation in sustainable energy and healthcare.

WORK EXPERIENCE

Research Assistant (RA)

Comsats University Islamabad, Lahore Campus, Department of Physics [12/02/2023 – 09/01/2024]

City: Lahore | Country: Pakistan

1. Formulation of Heterogeneous Breast Phantom for the Estimation of Radiation Dose in Breast Cancer Radiotherapy.
2. Phantom study for precise dose estimation in Radiation Therapy.
3. Pattern recognition and deep learning models for cancer detection.
4. Tissue equivalent phantom study for assessing the effect of radiation dose.
5. User of Python and Origin.

Teaching Assistant (TA), Introduction to Biosciences (BSC-100)

Comsats University Islamabad, Lahore Campus, Department of Physics [12/02/2023 – 03/06/2023]

City: Lahore | Country: Pakistan

1. Office hours to teach course content to junior-year students.
2. I helped my instructor in making related policies and in marking graded components.
3. Facilitated group discussions to enhance student understanding of key bioscience concepts.
4. Managed course materials and updated the online platform with relevant resources and grades.
5. Organized and led review sessions before exams to help students prepare and clarify any difficult concepts.

Home Tutor

[04/02/2019 – 27/08/2020]

City: Lahore | Country: Pakistan

1. Developed and delivered personalized lesson plans to address individual student needs in physics and math.
2. Simplified complex concepts to enhance student understanding and boost academic performance.
3. Assisted with homework, test preparation, and problem-solving strategies, leading to measurable improvements.
4. Regularly assessed student progress and adapted teaching methods to optimize learning outcomes.
5. Fostered a positive learning environment to build student confidence and engagement in the subject matter.

EDUCATION AND TRAINING

Master of Science in Physics (MS Physics)

COMSATS University Islamabad(CUI)-Lahore Campus, Pakistan [09/02/2022 – 25/01/2024]

Country: Pakistan | Final grade: CGPA 3.0/4.0 | Thesis: Formulation of Heterogeneous Breast Phantom for the Estimation of Radiation Dose in Breast Cancer Radiotherapy.

This project focused on developing a heterogeneous breast phantom to accurately simulate the human breast for the purpose of estimating radiation doses during breast cancer radiotherapy. The phantom was designed to replicate the varying tissue compositions found in the breast, allowing for more precise measurement and evaluation of radiation distribution. This is crucial for optimizing treatment plans, minimizing radiation exposure to healthy tissues, and improving patient outcomes in breast cancer radiotherapy. The research aimed to enhance the accuracy and safety of radiation therapy through better dose estimation techniques.

Bachelor of Science in Physics (BS Physics)

COMSATS University Islamabad(CUI)-Lahore Campus, Pakistan [03/09/2017 – 06/08/2021]

City: Lahore | Country: Pakistan | Final grade: CGPA 2.79/4.0 | Thesis: Rare Earth Tuned Cobalt Free Cathode Material for Solid Oxide Fuel Cell

The research on "Rare Earth Tuned Cobalt-Free Cathode Material for Solid Oxide Fuel Cells" aims to develop cobalt-free cathodes by incorporating rare earth elements. This approach seeks to reduce costs, improve environmental sustainability, and enhance the performance of Solid Oxide Fuel Cells (SOFCs). The focus is on optimizing the material's composition to achieve high conductivity and stability, potentially leading to more efficient and widely adopted SOFC technology.

PROJECTS

[03/09/2020 – 14/06/2021]

Rare Earth Tuned Cobalt Free Cathode Material for Solid Oxide Fuel Cell

This project developed a cobalt-free cathode material for solid oxide fuel cells, enhanced with rare earth elements to improve performance and sustainability. The research aimed to create a more efficient and eco-friendly alternative to traditional cobalt-based materials.

[09/02/2023 – 25/01/2024]

Formulation of Heterogeneous Breast Phantom for the Estimation of Radiation Dose in Breast Cancer Radiotherapy

This project developed a heterogeneous breast phantom to accurately estimate radiation doses in breast cancer radiotherapy. The phantom replicates varying breast tissue compositions to improve dose measurement and optimize treatment planning.

[03/09/2023 – 25/01/2024]

Phantom study for precise dose estimation in Radiation Therapy

This study focused on using a phantom model to achieve precise dose estimation in radiation therapy. The phantom, designed to mimic human tissue, allows for accurate measurement and optimization of radiation delivery, enhancing treatment efficacy and minimizing exposure to healthy tissues.

[03/09/2023 – 25/01/2024]

Pattern recognition and deep learning models for cancer detection

This project focused on developing and applying pattern recognition and deep learning models to improve cancer detection. By leveraging advanced algorithms, the research aimed to enhance diagnostic accuracy and early detection of cancer, ultimately supporting better patient outcomes.

[03/09/2023 – 25/01/2024]

Tissue equivalent phantom study for assessing the effect of radiation dose

This study used a tissue-equivalent phantom to evaluate the impact of radiation dose on different tissue types. The phantom accurately simulates human tissue, enabling precise assessment of dose distribution and its effects, which aids in optimizing radiation therapy for better patient safety and treatment outcomes.

PUBLICATIONS

Vibrational Spectroscopy for Breast Tumor Phantom for the Estimation of Radiation Dose.

Development and Characterization of a Heterogeneous Breast Phantom for Accurate Radiation Dose Estimation in Breast Cancer Radiotherapy.

Tissue equivalent phantom study for assessing the effect of radiation dose.

I'm collaborating on these different topics, Yet I don't publish any papers in international journals. I'm trying my best to get the best result. Hopefully I will publish my results in a good journal.

CONFERENCES AND SEMINARS

Attended a Training Seminar on "Youth empowering Space".

Participated in One-Day Symposium on "SEMICONDUCTOR PHYSICS" organized by Department of Physics.

Participated Energy Storage Symposium, Department of Physics, Comsats University Islamabad, Lahore Campus

Participated in Poster Presentation organized by the Department of the Physics, Comsats University Islamabad, Lahore Campus

Attended International Conference on "Emerging Trends in Physics", University of Management and Technology(UMT), Lahore, Pakistan

Participated as an organizer for "OpenHouse", Comsats University Islamabad, Lahore Campus

LANGUAGE SKILLS

Mother tongue(s): PUNJABI

Other language(s):

ENGLISH

LISTENING B2 READING C2 WRITING B2

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

URDU

LISTENING C2 READING C2 WRITING C2

SPOKEN PRODUCTION C2 SPOKEN INTERACTION C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

MANAGEMENT AND LEADERSHIP SKILLS

PIXTERS Management, PIXTRES Society, CUI Lahore

PIXTERS Society captures and documents university events and functions through student photography, showcasing campus life and fostering photography skills.

Project Management Skills

I was assigned a class project by the Teacher in My MS Physics 3rd semester CUI-Lahore, Pakistan. I build the team to complete tasks and give a plan of execution for the project. Identify costs associated with developing the project. Assign team members to responsibilities & set deadlines for completion.

Organizational Skills

Teamwork: worked in different teams on multiple projects.

Communication: communicated in different technical and social gatherings.

Commitment: successfully completed multiple assignments and projects during my academic career.

NETWORKS AND MEMBERSHIPS

Membership of Hubble society of Space and Technology, CUI Lahore

It promotes student interest in space science and technology through events, seminars, and workshops on astronomy and space exploration.

Membership of Comsats Astrophysics Society, CUI Lahore

The society is dedicated to promoting interest and knowledge of astrophysics among students. The society organizes seminars, workshops, and events focused on exploring the universe, fostering a deeper understanding of celestial phenomena among students.

DIGITAL SKILLS

Microsoft Office / Social Media / Google Drive / Organizational and Planning Skill / Numerical Analysis / Experience to treat ODE's / Origin software (data processing and analysys) / Programming C, Python / Communication tools / Team work oriented

HONOURS AND AWARDS

Hafiz e Quran

Received Solar Panel on merit from Chief Minister of the Punjab

ONLINE COURSES

HR Foundations: Core Human Resources (LinkedIn Learning)

Learning PPC with Google Ads (Linkedin Learning)

Python (Coursera), (kaggle)

CERTIFICATIONS

Hafiz-e-Quran

Inter Departmental Sports Competition Cricket (Winner)

Inter Departmental Sports Competition Volleyball (Runner Up)

Hostel Sports Gala Fall 18, Cricket (Winner)

Physics Super League (PSL 2023)

Open House as Organizer (CUI-Lahore Campus)

HOBBIES AND INTERESTS

Extracurricular

(**Body:** Cricket, Football, Badminton and Jogging, **Mind:** Reading, Social Networking **Soul:** Community Service)

REFERENCES

Reference 1

Position: Assistant Professor

Relationship: Research Supervisor & Instructor

Department of Physics, CUI, Lahore

Email: naimaamin@cuilahore.edu.pk

Reference 2

Position: Assistant Professor

Relationship: Research Co-Supervisor

Department of IRCBM, CUI, Lahore

Email: arsalanahmed@cuilahore.edu.pk