Tayyaba Arooj

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EDUCATION

Hamdard University, Islamabad Campus Islamabad, Pakistan
Bachelor of Computer Science June 2024
3.54/4.0 | Ranked 2nd in Batch of 2020 | Awarded with Merit Certificate and Scholarship

Islamabad College for Girls F-6/2 Islamabad, Pakistan
Intermediate | ICS (Mathematics, Computer Science, Physics) April 2020
First Division | Member of Civic Society for 2 years

PUBLICATION

Well-being meter based on federated learning powered sentiment analysis
-   In progress
-   Authors: Tayyaba Arooj, Hassan Farid, Dr. Shaheer Muhammad

AI-based Skin Cancer Detection Algorithms: Opportunities, Challenges, and Way Forward
-   Under Review
-   Available at [here]
-   Authors: Tayyaba Arooj, Dr. Shaheer Muhammad, Dr. Hannan Adeel, Mahjabeen Sadeeq

PROFESSIONAL EXPERIENCE

Webrange Solutions Islamabad, Pakistan
AI Engineer - Internship **April 2025 – Present**
-   *Developing chatbots for various tasks using llms, langchain and Model Context Protocol.*

UTECH INNOVATIVE SOLUTIONS AND CONSULTANCY Remote, Hong Kong
Research & Development Engineer - Internship **April 2024 – Present**
Engaged in AI-based R&D projects. Team Lead for MelanoDetectAi, a handheld melanoma detection device with app integration supported by *100,000 HKD funding from* **Hong Kong Science and Technology Park**.

SKILLHAT Remote, Canada
Software Developer (Bubble Developer) **September 2024 – November 2024**
-   *Developed an MVP web app on Bubble.io for SkillHat's CoFundEstate product, enabling property co-investment for up to 10 investors by integrating AI-driven features for an enhanced user experience and streamlined processes*

ALBERUNI TECH Islamabad, Pakistan
Front-End Developer - Intern **July 2023 – September 2023**
-   *Developed a YouTube clone and other interfaces using HTML, CSS, JavaScript, and React; collaborated with team members to ensure responsive, user-friendly designs across various front-end projects.*

PROJECTS & COURSES

AI-based Skin Cancer Detection Algorithms | FINAL YEAR PROJECT (THESIS)
Conducted in-depth research on AI algorithms for skin cancer detection, implementing state-of-the-art CNN variants, including VGG-16, VGG-19, MobileNet-V2, and DenseNet. VGG-16 achieved top accuracy at 97%.

Personalized Medical Recommendation System with Machine Learning | Python
Developed and deployed an AI system for disease prediction. Created a recommendation engine for workouts, diets, and medications. Designed a user-friendly interface. Ensured accuracy through testing

and continuous improvement.

SMS Spam Classification | Python (Semester Project)
A machine learning model to classify SMS messages as spam or not spam. The model is trained using a labeled dataset of SMS and can predict whether a new message is spam or legitimate based on the text

Traffic Sign Classification Using CNN | Python (Coursera Project)
Built a CNN model for traffic sign classification in computer vision, applying data augmentation and optimized training with EarlyStopping and ModelCheckpoint.

COURSES AND CERTIFICATIONS
- IELTS (English Proficiency, Overall Bands: 8.0)   September – 2024
- Exploratory Data Analysis for Machine Learning – Coursera – IBM   March – 2024
- Introduction to Computer Vision and Image Processing – Coursera – IBM   March – 2024
- HTML, CSS, and Javascript for Web Developers – Coursera – IBM   August – 2022

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Volunteer Usher   Hamdard University, Islamabad
Seniors' Convocation 2023
- Assisted in event coordination.

Seminars Compere   Hamdard University, Islamabad
- Seminar Title: "Can Digital Transformation Succeed Without Analytics"
- Seminar Title: "Research Rainbow in Data Science: Open Issues and Challenges"

CodeWar
Participant, Coding Competition (Python)   HiTech University, Taxila
- Competed in CodeWar using Python, demonstrating coding proficiency and problem-solving skills under competitive conditions

VisioSpark
Participant, Quiz Competition   Comsats University, Wah Cantt
- Competed in a computer science-focused quiz, showcasing knowledge in core topics and quick problem-solving skills.

The Youth Trust   Islamabad, Pakistan
Volunteer - Social Media Team Member   September 2023 – July 2024
- Created social media posts and banners for campaigns.
- Fundraising for "Bait-ul-Barkat" vocational center.

Alkhidmat Foundation Pakistan   Remote
Volunteer - Digital Volunteer   June 2023 – July 2024
- Content writing for social media posts

SKILLS & TECHNICAL STACKS

Languages:	Python, SQL
Databases:	MySQL, PostgresSQL, MangoDB, Pinecone, ChromaDB
Research Interests:	Artificial Intelligence, Machine Learning, Deep Learning, Natural Language Processing, LLMs