Rizwan Shah

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PROFILE

Dedicated Flutter Developer with expertise in **AI, Machine Learning, Deep Learning**, and **Neuro Signaling and Imaging**. Proven track record in delivering high-quality, innovative solutions, particularly in healthcare and neuroscience applications. Known for a strong work ethic, effective problem-solving, and the ability to excel both independently and in team environments. Committed to continuous learning and applying cutting-edge technologies to create impactful, user-centered applications.

EDUCATION

MS Artificial Intelligence, Pak-Austria Fachhochschule Institute of Applied Sciences and Technology   2024 – Present
Haripur, Pakistan

BS Software Engineering, Comsats University Islamabad, Abbottabad Campus   2020 – 2024
Abbottabad, Pakistan
- **CGPA**: 3.32
- **Core Courses:** Programming Fundamentals, Data Structures and Algorithms, OOP, Introduction to Software Engineering, Web Technologies, Mobile App Development, Database Systems, Software Project Management, Design Patterns, Intro to AI, Intro to Data Science.

DAE Electrical, *Government College of technology Abbottabad*   2017 – 2020
Abbottabad, Pakistan
- **Marks**:2640/3550 | **Percentage**: 74%
- **Core Courses:** Principles of Electrical Engineering, D.C Machines & Batteries, Electrical Instruments & Measurements, Basic Electronics, Digital Logic Design, A.C. Machines, Transmission, Distribution and Protection of Electrical Power Systems, Telecommunication

SSC, *Oxford Science School And College Chokara Karak*   2016 – 2017
Karak, Pakistan
- **Marks**: 878/1100 | **Percentage**: 79.8%
- **Core Subjects:** Physics, Chemistry, Mathematics, Biology

PROFESSIONAL EXPERIENCE

Research Assistant, Biomedical Lab – SinoPak Center for AI   Oct 2024 – Present
- Conducting research on brain signaling, focusing on the early detection and analysis of **Parkinson's disease** using advanced computational methodologies.
- Developing innovative solutions for **silent speech decoding**, bridging communication gaps for individuals with speech impairments.
- Collaborating with interdisciplinary teams to integrate clinical data and computational techniques for enhanced research outcomes.
- Performing data preprocessing, analysis, and visualization to extract meaningful insight from biomedical datasets.
- Assisting in the preparation of research publications, grant proposals, and presentations for conferences.

Lab Engineer, Pak-Austria Fachhochschule Institute of Applied Sciences and Technology   Sept 2024 – Dec 2024

- Oversaw the setup and maintenance of laboratory equipment, ensuring optimal   Haripur Pakistan
  functionality for academic and research activities.
- Assisted students in conducting experiments and projects, providing technical
  guidance and support.
- Designed and conducted laboratory sessions to align with academic curriculum
  and learning objectives.
- Collaborated with faculty to enhance laboratory infrastructure and develop innovative
  teaching methodologies.
- Acted as a bridge between faculty and students, facilitating a conducive learning environment.

Student Ambassador, *Orca Clan Tech*   Apr 2024 – Dec 2024

- Acted as the liaison between the company and the student community.   Abtd, Pakistan
- Promoted the company's products, services, and events within the
  academic environment.
- Organized and participated in campus events, workshops, and   informational sessions.
- Provided feedback to the company on student interests and concerns.
- Helped build brand awareness and fostered relationships with potential

Trainee, *Microsoft College of Computer and Management*   Feb 2024 – Jul 2024

- Taught courses in Mobile App Development (Flutter, Android) and   Abtd, Pakistan
  Web Development (HTML, CSS, JavaScript)
- Focused on hands-on projects and real-world applications.
- Developed course materials tailored to industry needs.
- Provided personalized guidance and feedback to students.
- Ensured students acquired industry-relevant skills.

Trainee, *Google Developer Student Club CUI ATD*   Sept 2023 – Jul 2024

- Served as a trainee at Google Developer Student Clubs (GDSC)   Abtd Pakistan
  for one year,Teaching Flutter from basic to advanced levels
- Trained two batches of club members, providing hands-on experience
  And guiding them through real-world projects.
- Developed and delivered a structured curriculum, ensuring members
  gaineda strong foundation in mobile app development.

IT GURU, *Google Developer Student Club CUI ATD*   Sept 2023 – Jul 2024

- The Head of IT Ninjas Group   Abtd Pakistan
- Handle technical Aspects
- Manage Technical Platforms
- Provide Technical Support for the Google Solution Challenge Under
  the Limited Time Frame

Vice President, Artificial Intelligence Community of Pakistan   Aug 2023 – Jul 2024

- Lead and oversaw the strategic direction of the Artificial Intelligence   Pakistan

Ensured the community's growth by engaging with new memutreach.

- Fostered Collaboration and knowledge sharing among members
- Organized workshops, seminars, and events to promote the AI education
  and innovation
- Growth by engaging with new members and expanding outreach

PROJECTS

Advanced Bone Marrow Cell Classification Application, *Final Year Project* 🔗
- **Robust AI Model:** Trained on a huge dataset of labelled microscopic cell pictures, the AI model performed well with a loss of 0.2286, an accuracy of 0.9418, a validation loss of 0.4207, and a validation accuracy of 0.8856.
- **Mobile Application:** Developed using the Flutter framework, this user-friendly app enables healthcare providers to upload bone marrow cell images for real-time classification.
- **Tools/ Techniques:** Google COLAB, Python, CNN, MobileNet, Classification, Kaggle, Flutter, Keras, Tensorflow, Firebase, Flask API, GitHub.
- **Project Achievements:** Selected as a finalist in the Google Solution Challenge 2024, Secured 1st position in the Build with AI Idea Competition at GDSC, CUI ATD, Achieved Runner-Up position in the SparkPitch Idea Competition at Tech Vision, Islamia College

Gesture Based Media Controller
- Developed a multi-task neural network model for object detection and classification.
- Implemented custom data generators to handle image augmentation and preprocessing.
- Achieved an overall classification accuracy of 87.08% on the test set.
- Utilized Mean Squared Error (MSE) for bounding box regression and categorical cross-entropy for classification.
- Employed advanced techniques such as early stopping and learning rate reduction to enhance model performance.
- Developed a cross-platform desktop application using Flutter to integrate the trained model for real-time gesture-based media control.
- **Tools/ Techniques:** Python, TensorFlow, Keras, OpenCv, ImageDataGenerator, NumPy, JSON, FlaskApi, Flutter

Detection of Osteoarthritis using Advance Segmentation in Radiographic Images
- Integrated a U-Net for precise segmentation of radiographic images and a MobileNet-based model for classifying osteoarthritis severity into five categories: Normal, Doubtful, Mild, Moderate, and Severe. Implementation on various Techniques using Deep Learning and Traditional Machine learning Methods and Comparison matrices.
- Implemented early stopping and learning rate reduction techniques to enhance model training and prevent overfitting.
- **Tools/ Techniques:** Python, TensorFlow, Keras, OpenCv, UNET, MobileNet, CNN, ImageDataGenerator, NumPy, JSON, FlaskApi

Uniyo Ltd 🔗
- Developed the Uniyo app to streamline service provision and booking for both customers and service providers.
- Implemented key functionalities including user authentication, service management, search and booking capabilities, payment processing, and notifications.
- Designed the app with future enhancements in mind, such as adopting Clean Architecture, integrating secure data handling practices, and enabling dynamic QR-based bookings.
- **Tools & Techniques:**Flutter for cross-platform development, GetX for state management, Firebase for backend services and authentication, Stripe for payment processing, and QR code generation libraries for dynamic bookings.

Personal Portfolio
- Created a personal portfolio website using HTML, CSS, JavaScript, and Bootstrap.

- Designed the site to be fully responsive, ensuring optimal viewing and usability across various devicesand screen sizes.
- Showcased projects, skills, and achievements with a clean and professional layout.
- **Tools & Techniques:**HTML for structure, CSS for styling, JavaScript for interactivity, and Bootstrap for responsive design and layout.

Complaint Application for Residentials 🔗
- Developed a fully responsive mobile app using Flutter to streamline complaint management for residential users.
- Implemented state management with GetX for efficient data handling and seamless user experience.Designed the app to facilitate easy complaint submission and tracking, ensuring effective   communication between residents and management.
- **Tools & Techniques:** Flutter for cross-platform development, GetX for state management, Firebase for backend services and data storage, and responsive design principles to ensure compatibility across various devices.

Ecommerce App
- Developed a comprehensive ecommerce app using Flutter to facilitate online shopping experiences.
- Implemented state management with GetX to efficiently handle user interactions and data flow. Designed a fully responsive UI to ensure a seamless experience across various devices and screen sizes.
- Integrated features such as product browsing, cart management, and order processing to provide acomplete shopping experience.
- **Tools & Techniques:** Flutter for cross-platform development, GetX for state management, and responsive design principles to enhance usability and visual appeal.

Skills

KEY SKILLS
- Flutter, Dart
- Java, C/C++, C#
- H1TML, CSS, JavaScript
- Python, TensorFlow, Keras
- Artificial Intelligence
- Machine Learning
- Digital Image Processing
- Neural Networks
- Deep Learning

PROGRAMMING LANGUAGES
- Python
- C/C++
- C#
- Java
- JavaScript
- Dart

TOOLS/API'S
- TensorFlow, Keras
- Google Cloud Platform
- VS Code, Jupyter Notebook
- Google Colab, PyCharm
- Git, GitHub
- Flutter,
- Visual Studio, Android Studio
- Firebase
- MNE
- Matplotlib
- Seaborn
- NumPy

DATABASES
- Firebase
- MongoDB
- MYSQL
- Microsoft Access
- Microsoft SQL Server

- Pandas
- Open CV
- Scikit- Learn

SOFT SKILLS
- Leadership
- Teamwork and adaptability
- Problem-solving and Decision Making
- Time Management and Organization
- Open and adaptive
- Community Engagement and Socialization

SYNOPSIS OF ACHIEVEMNETS

Academic Achievements
Our project was selected for the Google Global Solution Challenge 2024.
- Achieved 1st position in the Build with AI Idea Competition at GDSC, CUI ATD.
- Received a certificate for leading a Web Development workshop, showcasing expertise in HTML, CSS, and JavaScript in 2024.
- Achieved Runner-Up position in the Spark-Pitch Idea Competition at Tech Vision, Islamia College.
- Awarded the Shield of Resource Person at Government College of Technology Abbottabad for "MobileApp Development Using Flutter" in 2023.
- Received the Shield of Outstanding Performance at Google Developer Students Club as IT GURU in 2023.

Leaderships and Community Engagements
- Conducted courses on Web Development and Mobile App Development at Microsoft College of Computer Management Abbottabad.
- Completed a three-day workshop on "Building Entrepreneurship Skills Training Program" by R.E.D International.
- Received a Certificate of Appreciation from Artificial Intelligence Community of Pakistan for outstanding work in 2023 and 2024.
- Organized a Hackathon on Build with AI Idea Competition at GDSC , CUI ATD.
- Organized an event on "Data Science: A Safari Trip" at GDSC , CUI ATD.
- Achieved Runner-Up position in the SparkPitch Idea Competition at Tech Vision, Islamia College.
- Coordinated an event on "Future Technologies and Blockchain for Everyone" at GDSC CUIATD.
- Organized a Hackathon with modules like Web Master, Coding Guru, and UI/UX Ninja at GDSC , CUIATD.

REFERENCES

Dr. Nuhman-ul-Haq, *Assistant Professor, CUI ATD*
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