Ibtasam Ur Rehman

LinkedIn | Github | Gmail | Google Scholar

Education

Ho Chi Minh City University of Science and Technology — Ho Chi Minh City, Vietnam
Masters of Science in Computer Science — *Aug 2023 – June 2025*

Riphah International University — Pakistan
Bachelors of Science in Software Engineering — *Sep 2017 – Aug 2021*

Research

Detection of Ophthalmic Disease Using Machine Learning Algorithms
Master's Thesis - Supervisor: Dr. Pham Hoang Anh

- Achieved 94% accuracy in cataract detection using an optimized Support Vector Machine (SVM) with the Radial Basis Function (RBF) kernel, and validated with Random Forest.
- Curated and preprocessed a comprehensive retinal image dataset, applying advanced techniques to enhance model performance for both SVM and Random Forest.
- Performed extensive hyperparameter tuning to maximize the predictive accuracy of both SVM and Random Forest models.
- Developed a mobile application for real-time cataract detection as a proof of concept, demonstrating potential for improved healthcare accessibility.

Experience

The Millennium Universal College TMUC — Islamabad, Pakistan
Lecturer — *Sept 2024 – Present*

- Instructed and mentored students in a range of technical subjects including Mobile Computing, Full Stack Development, and Web Technologies.
- Developed and delivered comprehensive course materials and hands on projects to provide students with foundational knowledge and practical skills.

Advanced Intelligence Technologies (AITech Lab) — Ho Chi Minh City, Vietnam
Researcher — *Dec 2023 – June 2025*

- Conceptualized and developed advanced AI and IoT solutions, applying machine learning techniques to enhance system capabilities across various projects.
- Collaborated with faculty and research teams to define project goals and identify knowledge gaps, contributing to literature reviews and aligning project objectives with real-world problems.
- Applied machine learning algorithms to real-world data analysis tasks, optimizing models for specific challenges in AI. Worked on classification, prediction, and disease detection tasks across various projects.

Ministry of Information Technology and Telecommunication — Pakistan
Senior Mobile Application Developer — *Nov 2022 – May 2023*

- Developed application with an intuitive UI, ensuring user-friendly features for easy adoption.
- Implemented secure API integrations using Flutter to maintain data confidentiality and integrity.
- Led iterative development cycles, gathering and incorporating feedback from stakeholders and users to continuously improve the app.

Techorra Tech — Pakistan
Mobile Application Developer — *Aug 2021 – Nov 2022*

- Performed in-depth user research to guide and optimize design decisions, ensuring alignment with user needs and expectations.
- Developed high-performance cross-platform mobile applications using Flutter, focused on delivering seamless and intuitive user experiences.
- Leveraged design tools like Figma and Adobe XD to create comprehensive and detailed UI mockups, ensuring precision in design and user interface development.

Projects

Cortex Vision | Python, Flask, Flutter, Firebase, Figma, UI UX

- Developed an AI-powered mobile application to detect cataracts, enhancing early diagnosis and patient outcomes.
- Designed and integrated a mobile app with Flask API and Firebase for user data management.
- Conducted thorough testing, achieving a 94% accuracy rate in cataract detection.

DermaAI | Flutter, Machine Learning, Image Classification, Python, UI UX

- Developed a cross-platform mobile application which diagnose and categorized skin condition from images.
- Implemented a convolutional neural network (CNN) to interpret skin lesions.
- Achieved 90% accuracy in classifying benign and malignant conditions, enhancing early detection in dermatology.

Heart Disease Detection Application | Flutter, Machine Learning, Matplotlib, OpenCV, Python, UI UX

- Developed a machine learning application to detect heart abnormalities from ECG readings using the MIT-BIH Arrhythmia Database.
- Preprocessed ECG data and trained a Convolutional Neural Network (CNN) to classify ECG images as normal or abnormal.
- Implemented a user-friendly interface for uploading ECG images and receiving diagnostic feedback.

Publications

Detection of Ophthalmic Disease Using Machine Learning Algorithm
10th EAI International Conference on Smart Objects and Technologies for Social Good
Read Paper

GELU-Activated Neural Network for Cardiovascular Risk Assessment:A Feature Engineered Deep Learning Approach Using Clinical Biomarkers
Read Paper

Multi-Omics and Imaging Integration for Urolithiasis Classification: A Transcriptomics-Guided Deep Learning Framework
Read Paper

SmartGluco: A Mobile Health Solution for Diabetes Risk Assessment Using Machine Learning
Read Paper

Technical Skills

Programming Languages: Python, Dart

Frameworks: Flutter, Material UI, FlaskAPI

Tools: Git, Android Studio, Visual Studio, PyCharm, Figma, Adobe

Libraries: Pandas, NumPy, Matplotlib, Plotly, CV2, Scikit-learn

Design Skills: UI/UX, Application Design, Wireframing, Prototyping, Visual Design, Interaction Design

Additional Courses and Certificate

Data Analysis for Machine Learning
Python Data Structures
Build Wireframes and Low-Fidelity Prototypes
Supervised Machine Learning: Regression
Certificate for UX Design Process
BK Innovation Certificate of Recognition

References

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