

# Ibtasam Ur Rehman

LinkedIn | Github | Gmail | Google Developer Profile

## EDUCATION

### Ho Chi Minh City University of Science and Technology

*Masters of Science in Computer Science*

Vietnam

*Aug 2023 – June 2025*

### Riphah International University

*Bachelors of Science in Software Engineering*

Pakistan

*Sep 2017 – Aug 2021*

## MASTER RESEARCH

### Detection of Ophthalmic Disease Using Machine Learning Algorithms

*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

### Researcher

*Advanced Intelligence Technologies (AITech Lab)*

Vietnam

*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.

### Mobile Application Developer

*Techorra Tech*

Pakistan

*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.

**Diabetes Prediction** | *Python, Machine Learning*

- Developed a machine learning model to predict diabetes risk using key health metrics such as Glucose, Blood Pressure, Insulin, BMI and Age.
- Utilize logistic regression for prediction. It includes user input functionality for real time predictions, helping individuals assess their diabetes risk based on their health information.

**Brain Tumor Classification** | *Python, Machine Learning*

- Utilizing Support Vector Machines for classifying brain tumors from MRI images, achieved prediction accuracies of 90.12% Linear, 93.56% Polynomial and 95.12% RBF
- Extracted features from the images using Histogram of Oriented Gradients to enhance model performance and accuracy.

**Noor e Quran** | *Flutter, Figma*

- Noor e Quran is a beautifully designed, comprehensive Islamic app created to illuminate your spiritual journey. Seamlessly navigate the Holy Quran, explore authentic Hadith, track your daily prayers, and stay connected with the core teachings of Islam — all in one place.
- View App

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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 and Interaction Design

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GOOGLE DEVFEST 2024

Mobile Tech Jam

Supercharge your web

Sudo code AI/ML

Devfest Cloud

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ADDITIONAL COURSES AND CERTIFICATE

**Exploratory Data Analysis for Machine Learning**

Certificate Link

**Python Data Structures**

Certificate Link

**Build Wireframes and Low-Fidelity Prototypes**

Certificate Link

**Supervised Machine Learning: Regression**

Certificate Link

**Certificate for UX Design Process**

Certificate Link

**BK Innovation Certificate of Recognition**

Certificate Link

## PUBLICATION

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### **Detection of Ophthalmic Disease Using Machine Learning Algorithm**

*Status:* Accepted (Click to Verify)

*Draft:* Read Draft

*Role:* Lead Author

*Conference:* 10th EAI International Conference on Smart Objects and Technologies for Social Good, Can Tho Vietnam

### **SmartGluko: A Mobile Health Solution for Diabetes Risk Assessment Using Machine Learning**

*Status:* In-Progress

*Draft:* Read Draft

*Role:* Lead Author

## REFERENCES

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### **Dr. Pham Hoang Anh**

Vice Dean

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Faculty of Computer Science

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### **Dr. Muhammad Zubair**

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