

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 – Continued

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

Feb 2024 – Continued

- 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.

Senior Mobile Application Developer

Ministry of Information Technology and Telecommunication

Pakistan

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.

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.

Real Estate Price Prediction and Classification Mobile Application | *Python, Flutter, Machine Learning*

- Developed a mobile application utilizing a hyperparameter-tuned Random Forest regressor to predict house prices.
- Implemented a classification feature to categorize houses as "expensive" or "not expensive" based on predicted prices, enhancing user understanding of property value.
- Integrated the machine learning model into the mobile application using a Flask API, enabling real-time price predictions and classifications.

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

GOOGLE DEVFEST 2024

Mobile Tech Jam	Sudo code AI/ML
Supercharge your web	Devfest Cloud

ADDITIONAL COURSES AND CERTIFICATE

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

PUBLICATION

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

REFERENCES

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