

Ibtasam Ur Rehman

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EDUCATION

Ho Chi Minh City University of Technology

Masters of Science in Computer Science

Ho Chi Minh City, Vietnam

Aug 2023 – June 2025

Riphah International University

Bachelors of Science in Software Engineering

Islamabad, Pakistan

Sep 2017 – Aug 2021

MASTER'S THESIS

Machine Learning Application Method to Detect Ophthalmic Diseases

Master's Thesis - Supervisor: Dr. Pham Hoang Anh

- Achieved 95.24% accuracy in cataract detection using an optimized RBF-SVM classifier, outperforming Random Forest (94.44%) and Polynomial SVM (92.86%) through extensive hyperparameter tuning with GridSearchCV.
- Engineered comprehensive feature extraction pipeline including HSV color features, Canny edge detection, and Hu moments for shape analysis, creating robust feature vectors for classification.
- Developed and preprocessed a dataset of 658 retinal images, implementing advanced techniques like unsharp masking and color space transformations to enhance model performance.
- Conducted comparative analysis of multiple ML algorithms, establishing RBF-SVM as the optimal model for ophthalmic disease detection with consistent 95% F1-score performance.

EXPERIENCE

The Millennium Universal College TMUC

Lecturer

Islamabad, Pakistan

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)

Researcher

Ho Chi Minh City, Vietnam

Feb 2024 – 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

Senior Mobile Application Developer

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.

Techorra Tech

Mobile Application Developer

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.

PUBLICATIONS & CONFERENCES

Rehman I, Pham HA. Cortex Vision: Detection of Ophthalmic Disease Using Machine Learning Algorithm.

In: Proceedings of the 10th EAI International Conference on Smart Objects and Technologies for Social Good; 2024 Dec 19 (pp. 138-149). Cham: Springer Nature Switzerland.

Read Paper

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

Presented at: 4th International Conference on Innovations in Data Analytics (ICIDA 2025), Springer LNNS Series.

Read Paper

Evolution of Explainable AI in Healthcare: Toward Trustworthy and Accurate Diagnostics

Accepted at: 3rd International Conference on Artificial Intelligence, Computer, Data Sciences and Applications, IEEE Conference (ACDSA26).

Read Paper

Deep Learning Architectures for Urolithiasis Classification: A Comparative Analysis of DNN, MLP and Autoencoder based Models

Accepted and Presented at: Malaysian Automatic Control Symposium (MARS 2025).

Read Paper

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

Accepted at: 2nd International Conference on Intelligent Systems and Security (ICISS2026).

Read Paper

Hybrid AI Approaches for Clinical Diagnostics: A Case Study on Meningitis

Accepted and Presented at: Malaysian Automatic Control Symposium (MARS 2025).

Read Paper

Hybrid Machine and Deep Learning in Brain Tumor MRI Analysis

Accepted at: 3rd International Conference on Artificial Intelligence, Computer, Data Sciences and Applications, IEEE Conference (ACDSA26).

Read Paper

Contrastive Machine Learning for Cardiovascular Prediction using advanced feature Engineering

Submitted at: IEEE International Conference on Artificial Intelligence 2026 (CAI) .

Read Paper

ACADEMIC REFERENCES

Dr. Pham Hoang Anh

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Faculty of Computer Science

HCMC University of Technology

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Dr. Musharraf Ahmed

Assistant Professor & HOD

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RESEARCH COLLABORATORS

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