Update 1 – Progress Report

CSE499B: Project Work | Section: 15 | Group: 07

Ashraful Islam (2212669042) , Tanushree Das (2212225042)

Project Progress Report: Arsenic Skin Detection using Machine Learning

Project Summary

Our project, "Arsenic Skin Detection Using Machine Learning," checks Tauhida Rahman Ereenwhether a skin image is arsenic-infected or not using deep learning. The main goal is to help detect arsenic skin problems early from images.

Work Done So Far

- Read key research papers

- Collected and organized the dataset.

- Reduced dataset imbalance.

- Preprocessed images (resize, normalize, augmentation).

- Built a Baseline CNN model.

- Used ResNet50 to improve results.

- Measured performance using accuracy, precision, recall, and F1-score.

- Completed project proposal and presentation slides.

Work in Progress

- Creating a web dashboard.

- Designing a simple and user-friendly frontend interface..

- Connecting the trained model to the website for live prediction.

Next Steps

- Improve the model performance more.

- Complete website deployment

- Add a chatbot to explain the prediction result and that explains the condition in simple words.

- Optimize the system for faster performance.

- Prepare Update 2 report with early results.

Challenges

- Making sure the model works well on real photos with different lighting and quality.

- Preventing the model from memorizing data (overfitting).

- Connecting the model smoothly with the website.

- Limited computer power for fast training.

- Managing time and teamwork properly.

Summary

We have trained and improved our model successfully. Now we are working on building a simple and user-friendly website and planning to add a chatbot to make the system more helpful and practical.