

Update 1 – Progress Report

CSE 499A: Project Work | Section: 15 | Group: 07

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Project Summary

Our project, “**Arsenic Skin Detection Using Machine Learning**,” aims to use CNN-based deep learning to detect arsenic-affected skin from images. This can help rural healthcare workers identify early skin damage caused by arsenic exposure.

Work Done So Far

- Read key research papers:
 1. *ArsenicSkinImageBD* — dataset of 8,000+ arsenic skin images from Bangladesh.
 2. *ArsenicNet* — deep learning model (Xception + Inception) achieving 97.69% accuracy.
 3. *Machine Learning Methods in Skin Disease Recognition* — overview of CNN use in dermatology.
- Created GitHub repo with folders (data/, support/, others/, updates/).
- Completed project proposal and presentation slides.

Work in Progress

- Searching and organizing datasets (e.g., ArsenicSkinImageBD).
- Learning image preprocessing (resize, normalize, augment).
- Studying CNN models (Xception, InceptionV3, MobileNet).

Next Steps

- Collect dataset and write preprocessing code.
- Train a small CNN prototype and record accuracy.
- Prepare Update 2 report with early results.

Challenges

- Dataset availability and imbalance.
- Limited computing power for model training.
- Need better time management and coordination.

Summary

We have completed our initial research stage by reading three major papers and setting up our development environment. Our next focus will be to prepare a small CNN prototype and start testing real arsenic skin data.