



FINAL YEAR PROJECT REPORT

**TUBERCULOSIS DIAGNOSIS USING DEEP
LEARNING**

**In fulfillment of the requirement
For degree of
BS (COMPUTER SCIENCES)**

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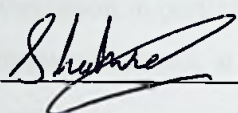
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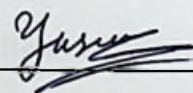
DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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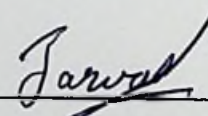
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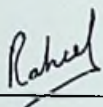
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APPROVAL FOR SUBMISSION

We certify that this project report entitled **“TUBERCULOSIS DIAGNOSIS USING DEEP LEARNING”** was prepared by **SHAHRUKH SHAKEEL, MUHAMMAD YASEEN & MIAN MUHAMMAD JAWAD** has met the required standard for submission in partial fulfilment of the requirements for the award of Bachelor of Computer Science at Bahria University.

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TUBERCULOSIS DIAGNOSIS USING DEEP LEARNING

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ABSTRACT

The project aims to develop a CNN model for classifying X-ray images. In this report, we introduced a deep learning-based approach to automatically detect the manifestations of tuberculosis using chest X-rays. Pakistan is the country with the highest exposure to TB cases.

Chest X-rays are used to diagnose active tuberculosis in symptomatic patients. This method of screening is ideally performed in primary health centres where clinicians are available and sometimes by portable X-ray machine. The main challenge of this screening method is timely reporting and follow-up of the patient at the beginning of treatment. We have created a convolutional neural network to model automated tuberculosis diagnosis, an advanced deep learning algorithm.

The suggested method will automatically detect whether the given image is infected with TB or not. This method helps doctors to make accurate predictions of the disease in a short period of time, thus helping to improve the clinical outcome.

Keywords - Deep learning - Chest X-ray - Symptomatic patients

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