**Med GPT– AI-Powered Medical Assistant For Patients and Students**

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DEPARTMENT OF COMPUTER SCIENCES

COMSATS UNIVERSITY ISLAMABAD, WAH CAMPUS

WAH CANTT – PAKISTAN

SESSION 2021-2025

**Med GPT – AI-Powered Medical Assistant**

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**FINAL APPROVAL**

The final approval page will be provided by the department after the final evaluation.

**DEDICATION**

" To my parents, whose unwavering support and sacrifices made my education possible, and to all medical professionals whose dedication inspired the creation of this project. Their collective perseverance serves as a constant reminder of the transformative power of knowledge and compassion in healthcare.”

**ACKNOWLEDGEMENT**

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* Faculty members of COMSATS WAH for their support
* My family for their patience during this journey
* Colleagues who provided testing feedback

**PROJECT BRIEF**

PROJECT NAME /\* MEDGPT – AI-POWERED MEDICAL ASSISTANT \*/

ORGANIZATION NAME /\* COMSATS \*/

OBJECTIVE /\* TO DEVELOP AN AI-POWERED MEDICAL CHATBOT THAT PROVIDES ACCURATE, SECURE, AND USER-FRIENDLY HEALTH

INFORMATION TO STUDENTS AND PATIENTS. \*/

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CITY /\* WAH CANTT \*/

DEPARTMENT /\* COMPUTER SCIENCE \*/

UNIVERSITY /\* COMSATS UNIVERSITY ISLAMABAD \*/

STARTED ON /\* 01-MAY-2024 \*/

COMPLETED ON /\* 09-MAY-2025 \*/

COMPUTER USED /\* [NAME OF COMPUTER] \*/

SOURCE LANGUAGE /\* PYTHON 3.10 \*/

OPERATING SYSTEM /\* UBUNTU 22.04 LTS / WINDOWS 11 PRO \*/

TOOLS USED /\* PYTORCH, FIREBASE, TESSERACT OCR, REACT.JS \*/

**ABSTRACT**

**MedGPT** is an AI-powered medical chatbot designed to assist patients and medical students by providing accurate medical information, processing documents/images, and improving responses through Reinforcement Learning with Human Feedback (RLHF). The system leverages transformer-based models fine-tuned on authenticated datasets like **PubMedQA** to ensure reliability. Key functionalities include natural language Q&A, OCR-based document processing, and continuous learning via RLHF. Implemented using **PyTorch, TensorFlow**, and **Firebase**, MedGPT aims to enhance telemedicine and medical education through scalable, secure, and context-aware AI support.

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