

Robotic Assistant and Companion Robot for COVID 19

Research Area: Artificial Intelligence, Image processing

Objective of the project:

- To develop an autonomous robot to avert the spread of COVID 19
- To assist COVID 19 affected patients using robots
- To monitor the health status of the patients
- To provide bestow companionship for the quarantine persons

Motivation:

1. Coronavirus disease (COVID 19) pandemic spreads especially in hospital zones.
2. Quarantine persons are stressed due to loneliness.

Methodology:

This project aims to protect the people against the spread of disease from the affected person. The case history provided the information that the people who work close to the affected patients are also affected by the disease. Many doctors, nurses, etc, were already affected by COVID 19 and some lead to death. To prevent this, autonomous robots are aimed to develop and assist the affected people using Artificial Intelligence (AI) and Image processing. The robots' paths are planned using image processing techniques. The developed robots assist the patient by providing food, medicine, needy items to them based on the requirement. Also, they will monitor the health status and report it to the doctors for the action to be taken regarding this. The quarantine persons feel lonely and it leads to stress. To manage it, the robot will act as a companion for them and it will provide them some activity based on the person's interest with the help of AI.

Expected Budget: Total Amount **Rs. 1,24,844/-**

Details	Amount (Rs.)
Internship Students remuneration for 4 months 6000 * 3 * 4	72,000/-
Contingency	15,000/-
Miscellaneous	5,000/-
Institute overhead (@15%)	13,800/-
GST @ 18%	19,044/-
Total	1,24,844/-

Excepted Timeline: 4 Months

Outcome\Month	1	2	3	4
Design and development of Robots	█			
Path planning – Robots (for assistant)	█	█		
Health Monitoring System		█	█	
Companion Robots			█	█

Excepted Outcome of the Project:

- Autonomous robots which assist COVID 19 patient which avoid direct contact of other people with the patient and prevent the pandemic spread.
- Health Monitoring System to monitor the patient health
- Assist the patient in medical and needy items
- Provide good companionship for the quarantine persons which reduce stress of the individuals.

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