As coronavirus continues to create chaos across the globe, bringing even some of the strongest economies down to their knees, the situation turns out to be worse in third-world countries.[1]

Lockdowns, both complete and partial, have been enforced in almost all countries, however, in countries with low GDP, the lives of daily wagers have been worsened since a significant chunk of the population relies on laborious work daily to make both ends meet.[2]

Undoubtedly, social distancing has helped curb the spread of the virus. Millions of people are staying at homes to help flatten the curve,[3] but they still have to step out of their homes to meet their basic needs, like groceries and medicines. Also, essential workers, like the medical staff and law enforcement personnel,[4] have to go daily to work, moreover, those who work for the manufacturing and pharma sector[5] are being called to their workplaces to keep the economic wheel moving.

This concludes that implementing a complete lockdown isn't feasible.[6] In developing and underdeveloped nations, societal pressure has been increased to ease the strictness of lockdown as people are running out of cash already. Welfare organizations are playing their part by distributing rations to the needy, however, while doing so, the standard operating procedures (SOPs) of social distancing are being neglected leading to a close interaction among people in these uncertain times. increasing the risk of the spread of the virus.

As of now, governments and tech giants, Google and Apple, are striving to implement contact tracing applications to predict the spread of the virus,[7] ensuring that nearly-accurate predictions are made so that individuals can be guided at the right time to impose self-quarantine, thus curbing the adversarial effect of the pandemic.

However, the issue with the above application is that it is only applicable in tech-oriented countries,[8] the characteristics of the population of such countries being digitally literate and have easy access to a stable Internet connection.

AI companies. like Landing.AI, have developed solutions[9] to implement social distancing in local streets and companies, but is lacking in impact since violaters of social distancing aren't prompted immediately with a warning.

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In countries, like Pakistan, where educational and digital literacy is low,[10] [11] the above measure won't prove to be a success. The same goes for other third-world countries, like India, Bangladesh, Afghanistan, and Iran.

What is needed is a tool that leverages the need to be tech-oriented and digitally literate to ensure the participation of individuals in contact tracing efforts; a social distancing detection and awareness tool that uses the infrastructure of current, popular apps available in an individual's mobile phone, rather than trying to implement and force them into something new.

That's what Wanderlust AI provides:

- For social distancing detection and awareness, it uses WhatsApp Live Location feature to track a person's location history. The fetched location data helps compute the average distance and predict whether social distancing is being maintained or not. If not, the violater is alerted via an SMS.

- For contact tracing, we use the currently available infrastructure of cameras and AI in an ISO 27018-compliant cloud, ensuring the security and safety of personally identifiable information (PII), to track a person's GPS coordinates and their picture without the need for smartphones. Predictions about the people coming in close contact with a COVID-19 patient will be made through the obtained data. The data will be made available to the National Database and Registration Authority (NADRA) so that those who came in close contact can be contacted immediately to be tested and self-quarantined if needed. In the case of the non-availability of cameras, we are proposing a low-cost product. Moreover, users of our WhatsApp-based service will possess an incremental benefit of being alerted via Twilio API for SMS.

The codes in this repository are implemented in Python3. You Only Look Once (YOLO) v3 and some machine learning (ML) algorithms help perform the above-mentioned tasks. Currently, Wanderlust AI is in development mode and is limited to a local machine. In the future, it is expected to be a cloud-based offering.

Team W@nderloop 2020

[10] gfmag.com/global-data/non-economic-data/best-tech-countries

[11] nation.com.pk/08-Feb-2018/literacy-rate-in-pakistan