International Journal of Multidisciplinary Research and Growth Evaluation.

Market Dynamics and Strategic Evaluation of Data Acquisition Systems: A 360-Degree Industry Assessment

Sireesha Kolla [1*], Srujan Ganta [2]
[1, 2] National Institutes of Health, India

* Corresponding Author: **Sireesha Kolla**

Article Info

ISSN (online): 2582-7138
Volume: 06
Issue: 03
May-June 2025
Received: 17-04-2025
Accepted: 19-05-2025
Page No: 1507-1512

Abstract
This study presents a comprehensive analysis of the global Data Acquisition (DAQ) System market, integrating both macroeconomic and microeconomic perspectives to assess current trends, challenges, and future prospects. The research explores the influence of national economic conditions, business cycles, and localized industry dynamics on market behavior. Key players in the DAQ system sector are examined in terms of strategic positioning, pricing, and value-chain performance. The report highlights shift in market standards, regional advantages, and competitive pressures that shape the industry's landscape. Additionally, upstream supply chains, raw material sourcing, and downstream sales channels are evaluated to provide a holistic understanding of the sector. Through an in-depth investigation of government policies, cost structures, and global trade influences, this paper offers a 360-degree view of the DAQ market's evolution and potential trajectory. The findings aim to support stakeholders in strategic decision-making and long-term planning within the DAQ ecosystem.

DOI: https://doi.org/10.54660/.IJMRGE.2025.6.3.1507-1512

Keywords: Trajectory, Planning, Potential

Introduction

A complete examination of the market is made by contemplating a combination of factors, from economics conditions and business cycles in a particular country to promote unequivocal microeconomic impacts. The examination found the move in market principles with respect to neighborhood advantage and the genuine scene of critical players. 2020 report pivots the fundamental producers of the Data Acquisition (DAQ) System market by and large with prevalent information, for example, contact and remuneration data, cost, division, driving parts, profiles of basic affiliations, respect, impediments, openings, inconveniences, and deterrents. Downstream deals examination, likewise as upstream crude stuff approaches and materials are done (Kermack W, 2007) [1]. The Data Acquisition (DAQ) System Market gives 360 degrees of assessment from deftly chain, import and cost control to typical government strategy and future impact on the business (Kermack W, 2007) [1].

Requested assessment about market status (2020-2026), experience rivalry model, central focuses and impediments of enormous business things, industry improvement plans (2020-2026), local current arrangement credits and macroeconomic procedures, mechanical strategy has in like way been solidified. Data Acquisition (DAQ) System Market from crude materials to end clients of this industry are destitute down deductively, the instances of Data Acquisition (DAQ) System Market thing course and plans channel will be introduced too. Considering COVID-19, this report gives broad and beginning to end assessment on how the scourge push this industry change continually (Harko T, 2014) [2]. Creation, esteem, cost, pay and contact information. This report revolves around Data Acquisition (DAQ) System Market Trend, volume and motivation at overall level, nearby level and companions level (Harko T, 2014) [2].

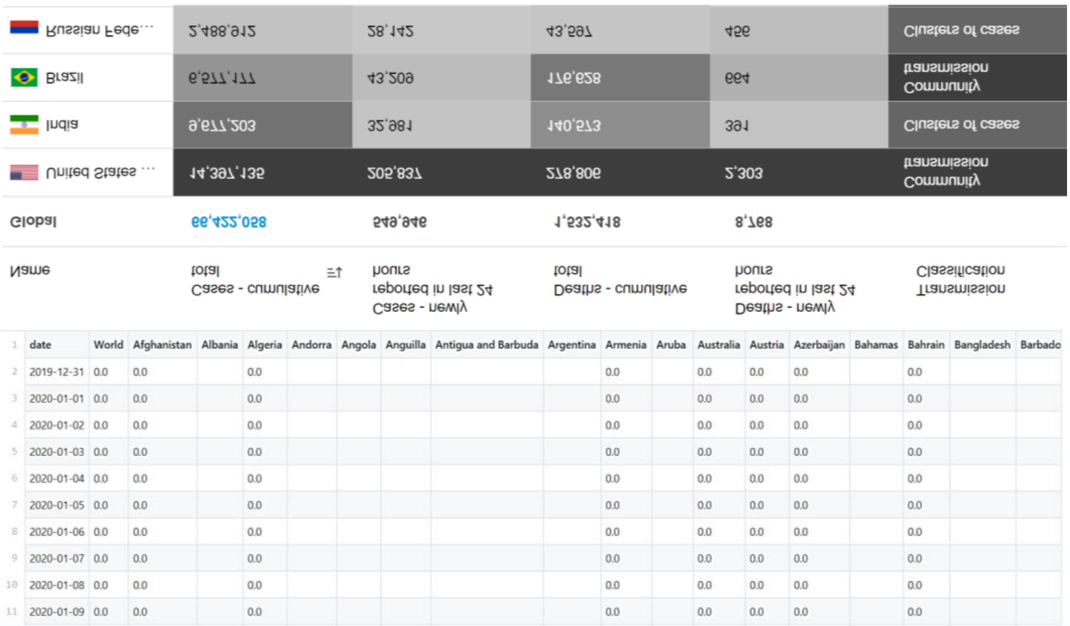
Data Acquisition

Accumulate data across managerial sources, recuperate technique measures, interface to World Bank Open Data, Google and Apple Mobility Reports. In the earlier week, over 3.3 million new cases have been represented all around the globe. Beginning at 1 November, very nearly 46 million cases and 1.2 million passing's have been represented far and wide. The further speeding up the event of new cases was commonly prominent in the European Region (Benvenuto D, 2020) [3]. A liberal rising in passing's in the locale and around the globe was also filed. In this update, we additionally present a phenomenal focus, invigorating on examples in the age and sexual direction allocation of COVID-19 cases and passing.

A worldwide point of view, this report speaks to in general Data Acquisition (DAQ) System Market Size by examining authentic information and future possibility. The worldwide Data Acquisition (DAQ) System Market is foreseen to increase at an impressive rate during the conjecture time frame, somewhere in the range of 2020 and 2026. In 2020, the market was developing at a consistent rate and with the increasing reception of methodologies by central participants, the market is relied upon to ascend over the extended skyline (Leung K, 2020). The Data Acquisition (DAQ) System market is required to develop at a Highest CAGR during the gauge time frame 2020-2026.

Dataset

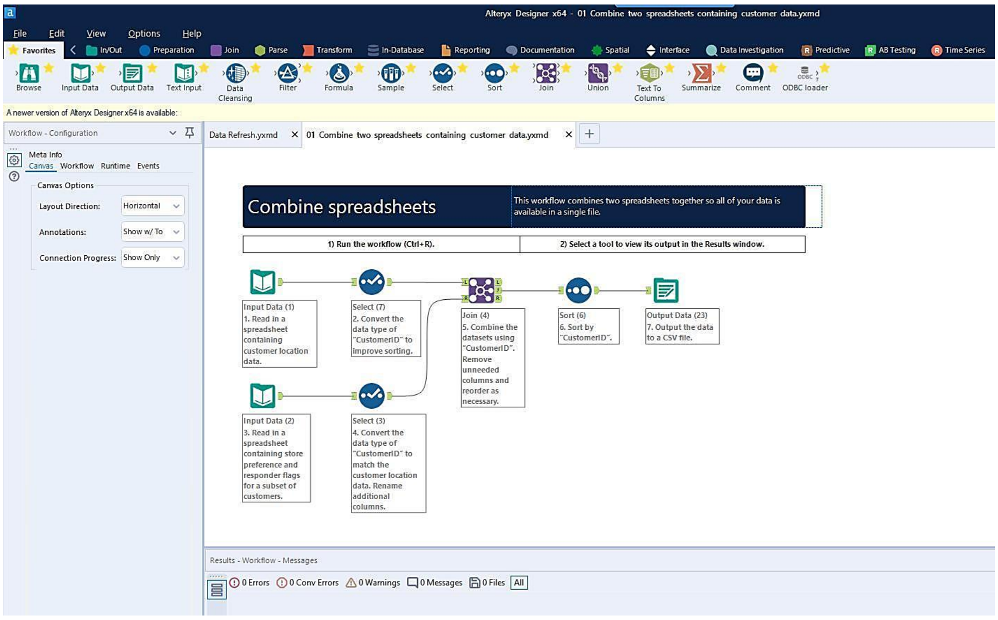
Covid-19 related data set from the WHO (World Health Organization) website.



date	World	Afghanistan	Albania	Algeria	Andorra	Angola	Anguilla	Antigua and Barbuda	Argentina	Armenia	Aruba	Australia	Austria	Azerbaijan	Bahamas	Bahrain	Bangladesh	Barbado
2019-12-31	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-01	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-02	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-03	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-04	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-05	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-06	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-07	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-08	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		
2020-01-09	0.0	0.0		0.0						0.0		0.0	0.0	0.0		0.0		

Data Transformation

You can all the almost certain perceive how a great deal and what kind of data change work you need to do on the data to make it usable. For example, if the source data's date fields are in the YYYY/MM/DD plan, and your cutoff time fields are in the MM-DD-YYYY plan, you'll need to change the source date fields to facilitate the goal association. Information change in information mining is finished by joining unstructured information with organized information to investigate it later.



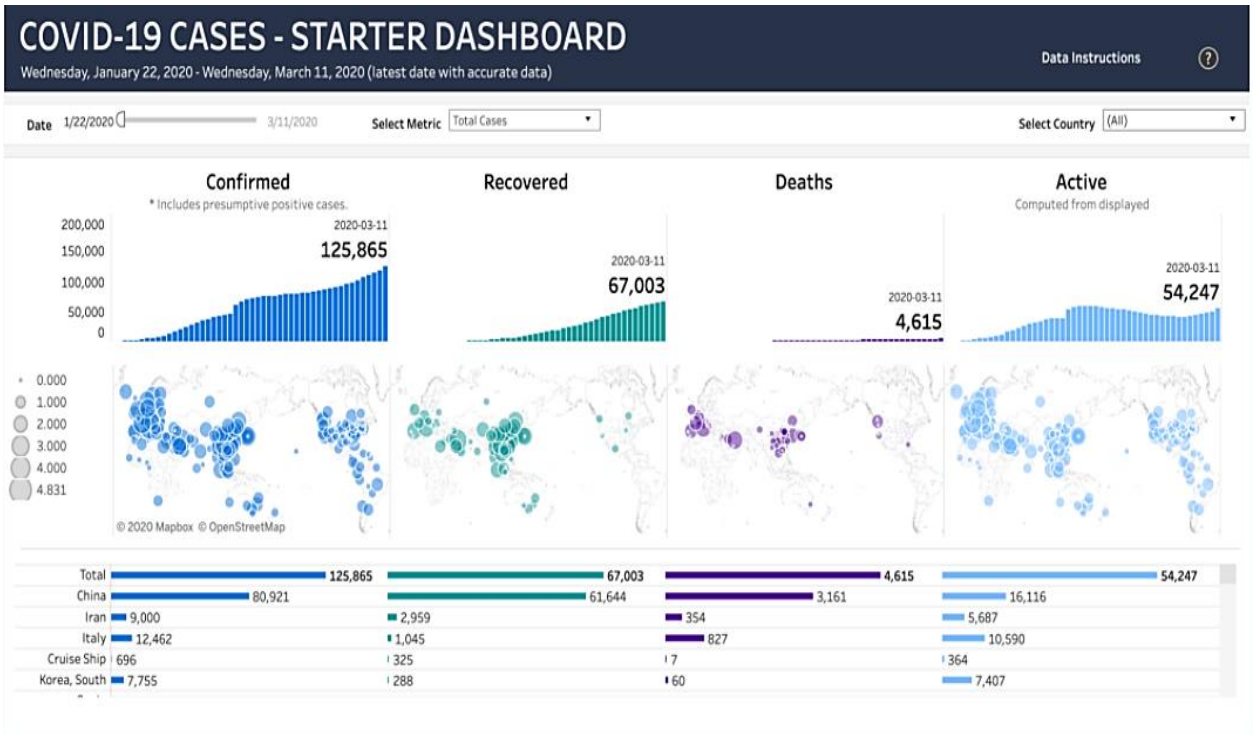
The information is perused from a bunch of CSV documents in the csse_covid_19_data\csse_covid_19_daily_reports\ subdirectory. A clump full scale is utilized to play out the import since after a specific date, scope and longitude fields were annexed to the informational collection. A Formula device is then used to parse the Last Updated field, since on an alternate date, the configuration of the date and time the record was last refreshed changes. A Sort instrument followed by two Multi-Row Formula devices are utilized to populate invalid Latitude and Longitude fields with relating values from coordinating records before them. At last, a Select, Auto-Field, Data Cleansing, and second Sort device are utilized to do some purifying of the information. All invalid strings are supplanted with void strings and all invalid whole number fields are set to 0. The couple of invalid Latitude and Longitude fields are left with no guarantees. The work process produces a YXDB yield. To utilize the information with spatial devices, a proper substitution for the invalid qualities in the scope and longitude fields should be set. Luckily, under 1% of the qualities in those fields are invalid. The GitHub storehouse is refreshed every day by JHU CSSE. To stay up with the latest, open an order brief, explore to the registry where the information is put away (e.g., C:\Data\COVID-19\), and run the accompanying order. Coronavirus (authoritatively known as SARS-CoV-2) has been spreading at a quick rate from individual to individual. This work process was made to accentuate how rehearsing social separating can lessen the spread of the illness and help level the bend.

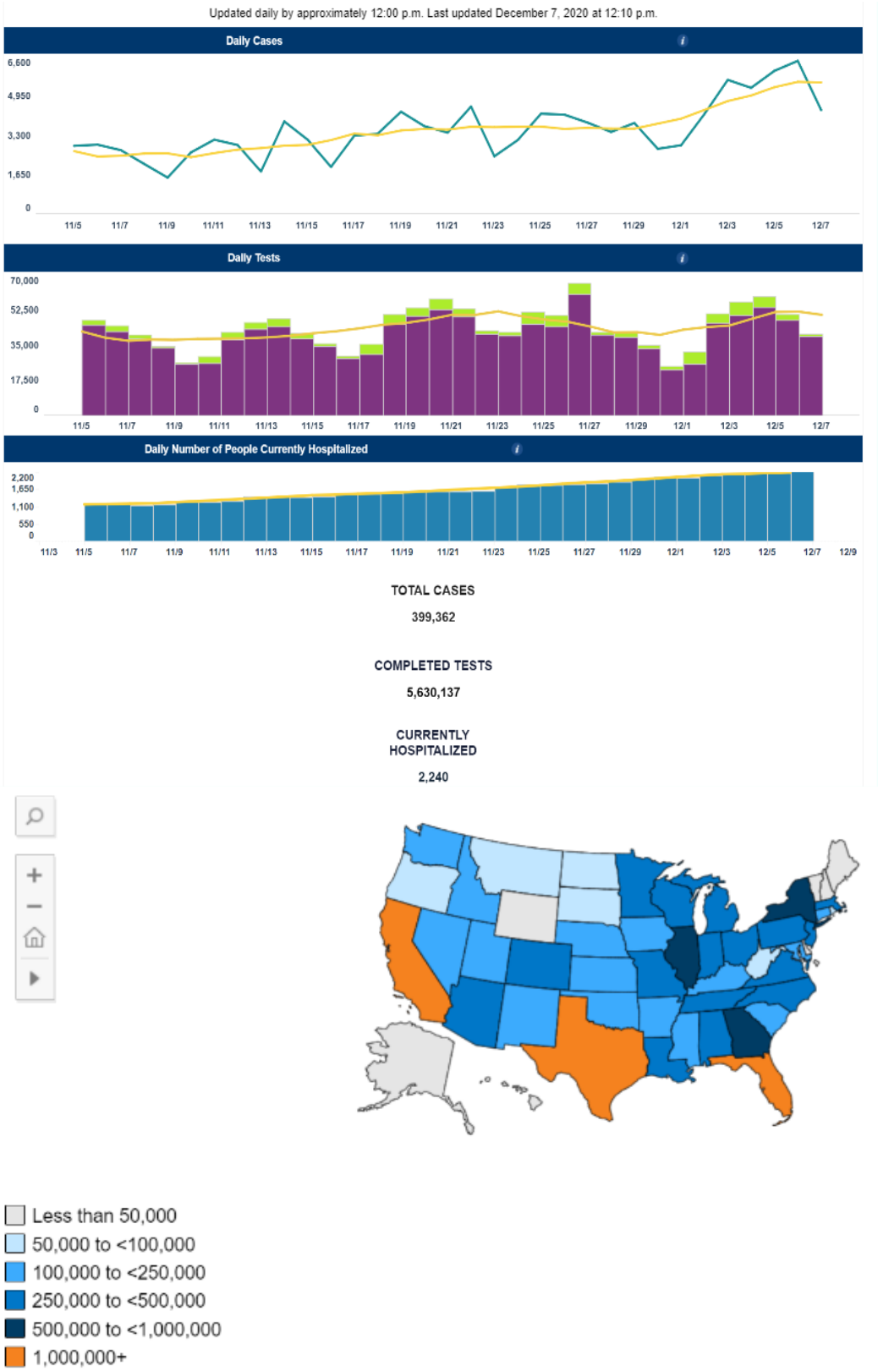
This work process shows how cases in Singapore are connected and spread through an organization examination chart. We have set up the chart with the end goal that the groups with numerous connections have more weight doled out to them, for example they are denser contrasted with the rest. Thus, if there are 5 cases connected inside bunch X and 8 cases connected inside group Y, at that point bunch Y has more weight doled out to it. The bolts assist us with seeing how the sickness spread and who was the primary wellspring of that group. Likewise, we can see through the diverse shading designs how cases are connected, as each group has one shading alloted to it. There are as yet numerous hubs that are not connected (blue spots). One reason for this is likely inadequate information at the revealed time because of continuous patient following. Utilizing this representation, we can check whether these patients interact with more individuals, the quantity of cases would rise dramatically. Henceforth it's critical to rehearse social separating during this time of emergency.

The information in this work process is given by the Ministry of Health, Singapore. They have been taking a shot at persistent following and to assemble segment data like identity, age, and sex to see how the infection has spread all through their nation. The outstanding connections between cases as relatives or contacts make this investigation conceivable.

Interactive Solution

Constructed visuals in Tableau. Appearing in a screen capture. The Virus Contact Map (VCM) could give a significant instrument to keeping away from introduction and following the infection's spread. The apparatus could offer general wellbeing authorities the capacity to perceive how COVID-19 advances after some time locally and provincially, and empower pioneers to distinguish territories as expected problem areas. The group is trying to join cell phone GPS history gathered by Google with nearby wellbeing office information on COVID-19 cases. "This is by a long shot the most basic prerequisite as without it, the utility for overall population will be significantly decreased," said Koushik Sinha, associate educator in the School of Computing at SIU. "The apparatus will give functionalities that we accept will be helpful to both private people just as wellbeing authorities."

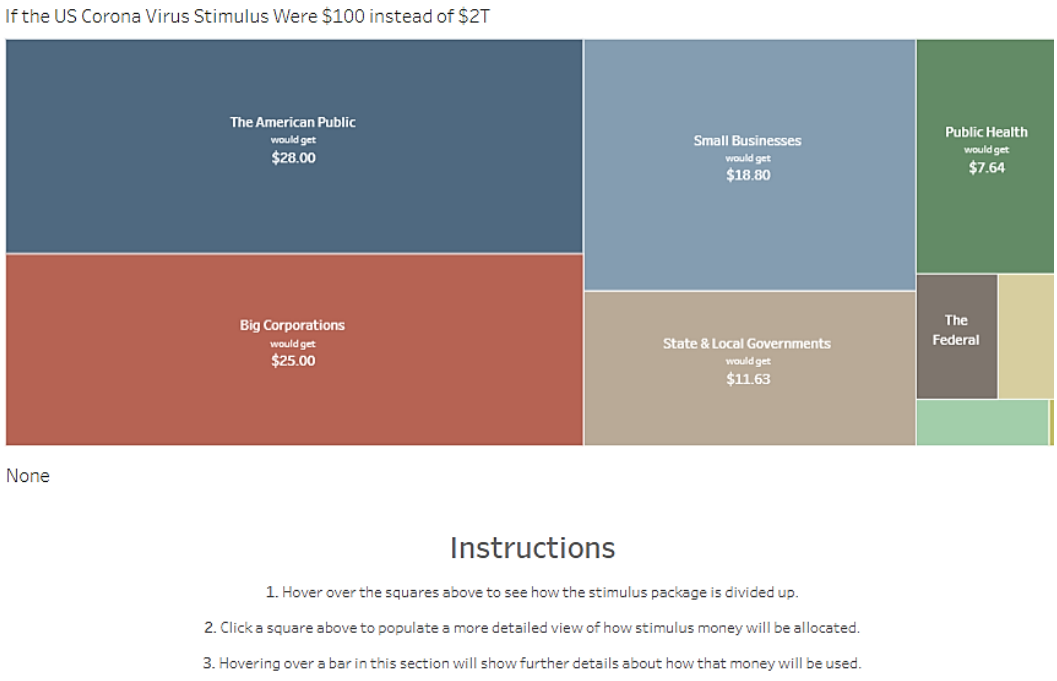




"Another model could be, say in New York City, an individual could utilize this data to decide whether it would presently be protected to take a walk or run in Central Park rather than a Queens area." For the third perception, clients can transfer their Google course of events history to the site, where an examination calculation would produce a rundown of areas where they may have been presented to a COVID-19 case in the ongoing past. The data would be introduced again in a shading coded map with each visited area, named either high, moderate, or generally safe of presentation. "Giving a danger evaluation of each contact and visited area would be a helpful element to not just people who need to survey their odds of disease, yet additionally to wellbeing authorities in distributing assets for dealing with the COVID-19 emergency." suppose I first utilize a perception that decides a specific supermarket is a more secure spot to go out on the town to shop on a specific day. Shockingly, I accidentally end up coming in closeness with an asymptomatic COVID-19 man who later tests positive. At that point this element would permit me to decide whether I was presented to any such

individual," Sinha said. "The representation of this guide additionally permits clients to control how far back as expected and what kind of closeness distance might she want to use for producing the contact following guide" (Hethcote W, 2010). When building up the apparatus, scientists meant to keep people's protection a main concern. The device's information base requires just a person's GPS history, just as the time at which they tried positive for the infection.

No other distinguishing data is required. Furthermore, all area information is put away and shown totally secretly. "Tending to protection concerns has been at the center of our development," Sinha said. "We have adopted a totally different strategy than that being taken by the vast majority of the proposed contact following applications being created the world over, some of which have just started to raise a great deal of worries about protection" (Hethcote W, 2010). The scientists at last plan to make a portable well-disposed rendition of the VCM device that will serve the requirements of wellbeing authorities and everybody. "We need uphold from the overall population in contributing their information to this instrument for everyone's benefit," Sinha said. "As more individuals use it, the better will turn into our capacity to give exact contact following and danger evaluation results."



Conclusion

The excellence of utilizing R and being truly capable with it is that you can immediately assemble an intelligent web interface for others to play with. This should be possible with the open-source R bundle Shiny. For instance, the most well-known shared diagrams in the news have been the ones around straightening the bend and adjusting the directions of the infection spreading by nation. In any case, as you will know, the perception can be sensationalized when various defaults are set (Hethcote W, 2010). With this Shiny application from Joachim Gassen, you can move the dials and pick the factors to be shown. These diagrams require substantially more work and a group of around nine analysts to gather the information, lead investigations and picture it appropriately. The Computational Story Lab at University of Vermont gathered tweets in excess of 20 dialects identified with COVID-19 and utilized an assortment of devices to get to these perceptions.

References

1. Kermack WO, McKendrick AG. A contribution to the mathematical theory of epidemics. Proc R Soc Lond A. 2007;115(772):700-21.
2. Harko T, Lobo FS, Mak MK. Exact analytical solutions of the Susceptible-Infected-Recovered (SIR) epidemic model and of the SIR model with equal death and birth rates. Appl Math Comput. 2014;236:184-94.
3. Benvenuto D, Giovanetti M, Vassallo L, Angeletti S, Ciccozzi M. Application of the ARIMA model on the COVID-19 epidemic dataset. Data Brief. 2020;29:105340.
4. Leung K, Leung GM. Nowcasting and forecasting the potential domestic and international spread of the 2019-nCoV outbreak originating in Wuhan China: A modelling study. Lancet. 2020;395(10225):689-97.
5. Hethcote HW, Van Den Driessche P. Some epidemiological models with nonlinear incidence. J Math Biol. 2010;29:271-87.
6. Kegan B, West RW. Modeling the simple epidemic with deterministic differential equations and random initial conditions. Math Biosci. 2005;195:179-93.
7. Thatikonda R, Vaddadi SA, Arnepalli PRR, *et al*. Securing biomedical databases based on fuzzy method through blockchain technology. Soft Comput. 2023. doi:10.1007/s00500-023-08355-x.
8. Vaddadi SA, Thatikonda R, Padthe A, *et al*. Shift left testing paradigm process implementation for quality of software based on fuzzy. Soft Comput. 2023. doi:10.1007/s00500-023-08741-5.
9. Satpathy S, Padthe A, Prakash M, *et al*. Method for measuring supercapacitor's fundamental inherent parameters using its own self-discharge behavior: A new steps towards sustainable energy. Sustain Energy Technol Assess. 2022;53:102760.

10. Padthe A, Ashtagi R, Mohite S, *et al*. Harnessing federated learning for efficient analysis of large-scale healthcare image datasets in iot-enabled healthcare systems. Int J Intell Syst Appl Eng. 2024;12(10s):253-63.
11. Thatikonda R, Kadakadiyavar S, Padthe A, *et al*. Diagnosis of Liver Tumor from CT Scan Images using Deep Segmentation Network with CMBOA based CNN. In: 2023 IEEE 3rd Mysore Sub Section International Conference (MysuruCon). IEEE; 2023. p. 1-8.
12. Padthe A, Kadakadiyavar S, Thatikonda R, *et al*. Plug-and-Play with POA based Maximum a Posteriori Denoisers for Image. In: 2023 IEEE 3rd Mysore Sub Section International Conference (MysuruCon). IEEE; 2023. p. 1-6.
13. Ashtagi R, Kharat PV, Sarmalkar V, *et al*. Enhancing melanoma skin cancer diagnosis through transfer learning: An EfficientNetb0 approach. [Journal details incomplete - please provide full reference]
14. Akkalkot A, Ashtagi R, Maginmani UH, *et al*. A prototype for a blind navigation system based on GPS voice alert system using ultrasonic sensor. In: Artificial Intelligence and Information Technologies. CRC Press; 2024. p. 289-93.
15. Akkalkot A, Ashtagi R, Khaple A, *et al*. A smart accident detection, prevention and reporting system using arduino. In: Artificial Intelligence and Information Technologies. CRC Press; 2024. p. 294-8.
16. Padthe A, Ashtagi R, Thatikonda R. Enhancing image quality using deep learning techniques. In: Artificial Intelligence and Information Technologies. CRC Press; 2024. p. 181-4.
17. Padthe A, Ashtagi R, Thatikonda R. Enhancing medical image segmentation using deep learning techniques. In: Artificial Intelligence and Information Technologies. CRC Press; 2024. p. 185-8.
18. Padthe A, Thatikonda R, Ashtagi R. Leveraging generative adversarial networks for cross-modal image processing. In: Artificial Intelligence and Information Technologies. CRC Press; 2024. p. 176-80.