MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
NH-12 (Old NH-34), Simhat, Haringhata, Nadia -741249

Department of Information Technology

List of Projects Completed By B.Tech Students

Session: 2021

TRACKING AND PREDICTING EPIDEMICS FROM SPACE THROUGH REMOTE SENSING AND MACHINE LEARNING

Guided By: Dr. Somdatta Chakravortty

Abstract: No one knows how much a pandemic can affect us unless it has already destroyed some lives, so what if we had a model which will predict the intensity of the pandemic, and your whole country more specifically your loved ones can be safe. Sounds interesting right, so the idea of our project will be to build an epidemic prediction model to prevent spreading epidemics in a certain place. Especially by using satellite data that focuses on a region's landscape, vegetation, concrete structure, water bodies, presence of air pollution causing gases in the atmosphere, For the region that can pinpoint conditions which are favorable for harboring various epidemic hosts, indicating where people are at greatest risk. As the communication and logistics system became stronger day by day, the rate of moving pandemic causing agents throughout the world became faster too. So knowing the prevention and the deadliness of the virus beforehand is important.

Members:

1. Arindam Chakraborty (30000217026)
2. Diptangsu Samaddar (30000217022)
3. Udita Sen (30000217005)

PERFORMANCE BASED E-LEARNING

Guided By: Ms. Sayantani Saha

Abstract: The use of IT applications in teaching and learning had changed the way students learn using 9 e-learning which was more modern, effective and efficient. This paper will explain the result for e-learning system performance evaluation based on faculties and students perspective using the Web-Based Evaluation model of E-Learning system.

Members:

1. Swapnadip Sahoo (30000217007)
2. Mosammat Ruksana Begam (30000218005)
3. Pratap Chandra Saren (30000217017)
4. Subhrajeet Sen (30000217009)

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
NH-12 (Old NH-34), Simhat, Haringhata, Nadia -741249

Department of Information Technology

WEATHER PREDICTION USING ML

***Guided By: Ms.* Dipanwita Ghosh**

Abstract: Weather prediction is the attempt by meteorologists to predict the weather conditions at some future time and the weather conditions that may be expected. It has become an important field of research in the last few decades as it highly affects our lives and business. The climatic condition parameters are based on the temperature, wind, humidity, rainfall and size of the data set. In most of the cases the researcher had attempted to establish a linear relationship between the input weather data and the corresponding target data. But with the discovery of nonlinearity in the nature of weather data, the focus has shifted towards the nonlinear prediction of the weather data. Although there are many literatures in nonlinear statistics for weather forecasting, most of them require that the nonlinear model be specified before the estimation is done. But since the weather data is nonlinear and follows a very irregular trend, Multiple Linear Regression, Auto Regressive Integrated Moving Average (ARIMA) etc evolved out to be a better technique to bring out the structural relationship between the various entities. The data stored in the cloud is generated in the form of CSV, JSON, XML, XLXS files which are used for further analysis. The correlation analysis of the parameters helps in predicting the future values. Auto Regressive Integrated Moving Average (ARIMA) model, that gives better results for time series data is used for predicting the values for forthcoming.

Members:

1. Ritwik Ghosh (30000217013)
2. Shubham Kumar (30000217012)
3. Puneet Rai (30000217015)

USING DEEP REINFORCEMENT LEARNING TO DEVELOP PANDEMIC INTERVENTION POLICIES

***Guided By:* Sayani Manna**

Abstract: Throughout history, epidemic outbreaks have put extreme pressure on our healthcare systems while posing major challenges to global economies. While vaccines are yet to arrive, public health officials need to determine the best sequence of intervention strategies (lockdowns and other drastic social measures) while analyzing a large number of scenarios and variables. This task can be overwhelming. Previously, intervention policies used to rely on heuristics. We present a Reinforcement Learning (RL) approach to automatically find optimal intervention strategies. The proposed approach automatically learns those policies, as a function of infection rates and various demographics parameters. The RL results are then studied to optimize interventions that minimize the economic impact without overwhelming our healthcare systems.

Members:

1. Soumak Paul
2. Debdattaa Kar

3. Srijita Karmakar

ALGORITHM VISUALISER

Guided By: **Joy Samadder**

Abstract: Acquiring knowledge about algorithms and programming skills is a difficult and complex process in particular. Various algorithm visualization systems have been developed, using animation techniques to illustrate the behavior of basic algorithms, to facilitate students' learning and skills development. This paper presents AlgoBook, an interactive dynamic algorithm visualization system for the introductory lessons in algorithm design and programming. AlgoBook allows students' experimentation not only with sample inputs for an algorithm, constructed by the designer, but, mainly, with the automatic animation of their own inputs to facilitate their learning even better. It even comes with learning resources for each algorithm and a text to speech feature for users who don't want to read.

Members:

1. Mayukh Chakrabarti (30000217019)
2. Rashmi (30000217014)
3. Supratim Saha (30000217008)
4. Ankush Chatterjee (300002170128)

iSCHOOL (E-LEARNING MANAGEMENT SYSTEM)

Guided By: Joy Samadder

Abstract: iSchool (E-Learning Management System) is a project which aims in developing an online application to provide Online Education, maintain Study Materials, keep Student records and collect Payments. This project has login features, Educator as Admin and Student as a user can login into their own portal separately. The Admin can login, through which the admin can monitor the whole system. This System can be used to search for courses, add new courses, edit courses, check payment status etc. The Admin after logging into his account can generate reports such as sell Reports. The User can login into his account to follow the course he purchased and can share his/her feedback. Overall this project of ours is being developed to help the Educator (Admin) as well as Students (User) to provide Teaching-Learning platform in the best way possible.

Members:

1. Md Shahid (30000217018)
2. Ayesha Khatun (30000217025)
3. Zawed Akhtar (30000218001)
4. Sk Sohel (30000217011)

MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL
NH-12 (Old NH-34), Simhat, Haringhata, Nadia -741249

Department of Information Technology

PATIENT DATA TRACKING SYSTEM

Guided By: **Sayantani Saha**

Abstract: This report describes the implementation of an android application to assist Doctors for patient data management and viewing. The patient can easily add new info as well as track his medical history at any given point of time all in his android mobile phone. Patients can also have their Medicine Reminder System and the complete environment is completely secure. We also implemented a dedicated disease prediction model. It will predict the disease and recommend doctors in future scope of this project.

Members:

1. Hasibur Rahaman Mandal (30000217021)
2. Suraj Sarkar (30000218002)
3. Joyobrata Dutta (30000217020)
4. Arindam Rakshit (30000218006)

ONLINE E-BOOK MAKER

Guided By: Joy Samadder

***Abstract*:** Online E-book Creator is a system which maintains the information about the books present in the library, their authors, the members of library to whom books are issued, library staff and all. This is very difficult to organize manually. Maintenance of all this information manually is a very complex task. Owing to the advancement of technology, organization of an Online Library becomes much simpler. The Online Ebook Creator has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations. This computerization of the library helps in many instances of its maintenance. It reduces the workload of management as most of the manual work done is reduced and users can add new books to read.

Members:

1. Arijit Saha (30000217027)
2. Debolina Das (30000217023)
3. Priyanka Sadhukhan (30000217016)
4. Tuhin Sikdar (30000217006)