NINGANNAGARI DINESH KUMAR | 16AG32004

AGR. FOOD ENGG.FOOD PROCESS ENGG. (M.Tech Dual 5Y)

EDUCATION

Year	Degree/Exam	Institute	CGPA/Marks
2021	M.TECH Dual Degree 5Y	IIT Kharagpur	7.63 / 10
2015	Intermediate Public Examination.	Narayana Junior College,Hyderabad.	96%
2013	Secondary School Certificate.	Narayana Concept School,Hyderabad.	9.7 / 10

COURSEWORK INFORMATION

Computer Science Courses: Programming and Data Structures (Theory + Lab) | Design and Analysis of Algorithms | Machine Learning: Foundations and Applications (Theory + Lab) | Object Oriented Systems Design.
Other Courses: Partial Differential Equations | Probability and Statistics | Engineering Mathematics | Basic Electronics (Theory + Lab) | Economics | CAD Simulation of Agricultural Machinery | Modelling of Extreme Events.

INTERNSHIPS

Classification of Patients based on Disease Severity: **Apr 20 - June 20**
•Pre-processed the raw data and applied K-Means Clustering Algorithm to cluster the data into 4 different groups.
•Designed 2 layered approach to classify whether a person is having the disease.The first layer is used to classify the case and control type. Second layer is used to classify the extent of severity into low, moderate, high for case type.
•Applied classification Algorithms such as Decision tree, Random Forest, Xgboost and found the best 2-layered combination suitable to classify the people. Used optimisation techniques to improve the accuracy of the model.

Prediction of Oxidation Stress Markers using Machine learning tools: **June 20 - Aug 20**
•Applied K-Means, Agglomeretive Clustering algorithms to the data. Found the optimal no. of clusters using Elbow Method. Evaluated these algorithms by clustering metrics such as silhouette score, DBIndex and calinski score.
•Applied SVM, Naive Bayes and ANN Classification Algorithms. Built an optimized model using Deep Neural Regression to predict Protein Carbonyl and MDA content in Male and Female patients.Learnt optimising techniques such as Cost Complexity Pruning, Principal Component Analysis and Feature Selection to improve the accuracy.

PROJECTS

Prediction of Shelf Life of Fried Banana Chips: **July 19 - Apr 20**
•Created my Own dataset for Banana Chips by performing series of experiments and preprocessed for ML models.
•Applied OLS Regression, Lasso and Multiple Linear Regression Models, among which Lasso gave highest accuracy.
•Designed an Android App using Android Studio which pedicts Peroxide value, Moisture content, Free Fatty Acid value of banana chips packed for certain time using different packaging materials and analysed shelf life of chips.

A Strategy to apply Machine Learning to Small Datasets: **Jan 20 - Mar 20**
•Applied different ML Algoritthms to improve ovrall accuracy for smaller dataset and compared it with ANN model.
•Used eye tracking data obtained fromTobile pro eye sensor to estimate Reaction time while playing VR games.
•After preprocessing, each layer was pre-trained individually and the pe-trained weights are used for final training.
•Obtained R2 score for the combination of three models was 79.6%, whereas for trained ANN model it was 87.23%.

Prediction of Air Quality Index for IIT Kharagpur: **Aug 19 - Oct 19**
•Used Web Scrapping method to collect data. Applied K-Nearest Neighbour, Artificial Neural Network, Decision Tree, Ridge, Random Forest, XgBoost, Lasso Regression Algorithms to dataset. Built model to predict AQI of IIT Kharagpur.

SKILLS AND EXPERTISE

Softwares: Matlab | Solid Works | EES | Proteus | Android Studio | Dev C++. **Libraries:** Tensor Flow | Scikit-Learn | Numpy | Pandas| Standard Template Library. **Operating Systems:** Windows | Ubuntu. **Programming Languages:** C | C++ | Python. **Certifications:** C++ by SoloLearn | Python for Data Science by Cognitive Class.

AWARDS AND ACHIEVEMENTS

•Acheived 6-star under problem solving skill and 5-star under C++ by solving 150+ problems in Hackerank.
•Solved 900+ problems from geeksforgeeks and my current rank in IIT Kharagpur is 2nd out of 5139 students.
• Secured All India Percentile Score of 97.22 in IIT-JEE (Mains) and 77.15 in 13th National Science Olympiad (NSO).

POSITIONS OF RESPONSIBILITY

• **InterHall Team Captain:** Captain of the Table Tennis Team of Meghnad Saha Hall of Residence in GC 2019-2020.
• **InterHall Vice Captain:** Vice Captain of the Volleyball and Table tennis Team in GC for MS hall in 2018-2019.

EXTRA CURRICULAR ACTIVITIES

•Active member of Illumination and Rangoli team of MS hall which secured Honourable position in GC 2018-2019.
•Core organising team member of Maitree sports event. Managed 400+ participants in different events for MS Hall.
•Member of the National Service Scheme IIT Kharagpur in which we conducted medical camps for the local people.

!self declaration by the student