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# VALLURUPALLI NAGESWARA RAO VIGNANA JYOTHI INSTITUTE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institute, NAAC Accredited with 'A' Grade  
NBA Accredited for CE, EEE, ME, ECE, CSE, EIE, IT B.Tech Courses

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## Best Lab Oriented Course Based Projects for the Academic Year 2017-18 CSE

| S.NO | H.T.NO   | NAME OF STUDENT  | PROJECT TITLE   | GUIDE NAME      | Year |
|------|--|--|---|-----------------|------|
| 1    | 14071A05A6<br>14071A0567<br>14071A05A7<br>14071A0590<br>15075A0515 | Praneetha Gutta<br>Nuthan Kumar<br>Priya Bhandari<br>Venkatesh<br>M S manish | Data mining for weather Prediction and climate change studies.                      | N V Sailaja     | IV   |
| 2    | 14071A0508<br>15075A0508<br>14071A0507<br>15075A0510               | Bhamidipati Srikanth<br>B Madhava Reddy<br>B Raju<br>V Tirumalesh            | Estimating the data using the training set and cross validation                     | Dr. Ch Suresh   | IV   |
| 3    | 15071A05J0<br>15071A05L5<br>15071A05K6<br>15071A05J7<br>15071A05I4 | C Vishnu Vardhan Reddy<br>P Varun<br>M Swaroop<br>G Rohit<br>A Rama Krishna  | Creation of Chat Monitor with Multiple Connected Clients in a Network using Threads | S Kranthi Kumar | III  |
| 4    | 16075A0520<br>16075A0521<br>16075A0522<br>16075A0523<br>16075A0524 | P.Ramakanth<br>Ramesh<br>Sainath<br>Nagaraj<br>Manoj Kumar                   | ruLAR in Unity  | P.Rama Krishna  | III  |
| 5    | 15071A0585<br>15071A0591<br>15071A05A6<br>15071A05B1               | K.Sai Chand<br>Md.Sulaiman<br>P.Lakshmipathy<br>Sheikh Mujahed               | Subnetting  | Tejaswi Potluri | III  |
| 6    | 16071A0531<br>16071A0540<br>16071A0548                             | Macha Navya<br>Sahithi Nalapuneni<br>Priya Rajula                            | Super Market Billing System   | DR.M.Rajasekhar | II   |
| 7    | 16071A0575<br>16071A0581<br>16071A0587<br>16071A0592               | Keerthana<br>Poojitha<br>Sreemae<br>Keerthi                                  | Cab Booking System  | A.Madhavi       | II   |
| 8    |  |  |   |                 | I    |

HOD-CSE

# Data Mining For Weather Prediction and Climate Change Studies

|          |   |   |   |                    |
|----------|---|---|---|--------------------|
| <b>1</b> | <b>14071A05A6<br/>14071A0567<br/>14071A05A7<br/>14071A0590<br/>15075A0515</b> | <b>Praneetha Gutta<br/>Nuthan Kumar<br/>Priya Bhandari<br/>Venkatesh<br/>M S Manish</b> | <b>Data mining for weather<br/>Prediction and climate<br/>Change studies.</b> | <b>N V Sailaja</b> |
|----------|---|---|---|--------------------|

**Name of the course** : Data Mining and Data warehousing

**Year / Semester** : IV- B.Tech I-semester

**Project Title** : Weather Prediction and Climate Change Studies

**Aim** : apply classification to predict the weather prediction and climate changes

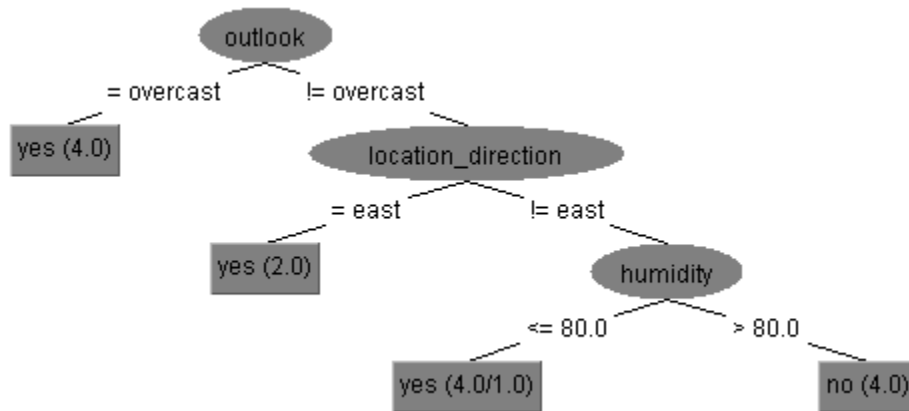
## ABSTRACT

The purpose of this project is to apply classification to predict the weather prediction and climate changes. Weather forecasting is a vital application in meteorology and has been one of the most scientifically and technologically challenging problems around the world in the last century. In this project, we investigate the use of data mining techniques in forecasting maximum temperature, rainfall, and wind speed by applying preprocessing steps and classification algorithms. We apply unsupervised filter for discretization of data as preprocessing step and then few classification algorithms. This was carried out using Naïve-bayes algorithms, Decision Tree algorithms and also some meteorological data collected. A data model for the meteorological data was developed and this was used to train the classifier algorithms. The performances of these algorithms were compared using standard performance metrics, and the algorithm which gave the best results was used to generate classification rules for the mean weather variables. The results show that given enough case data, Data Mining techniques can be used for weather forecasting and climate changes.

## ALGORITHM:

1. Study of various pre-processing techniques for improving the quality of raw data
2. Use of un-supervised filter for discretization of data as preprocessing step
3. Understanding and exploring the various algorithms for classification technique
4. Analyzing the results of J48 and Naïve-bayes algorithm

**RESULT:**



**LIMITATIONS:**

It cannot predict the weather short term efficiently. We used only small limited areas for weather forecasting. Accurate weather prediction is a difficult task due to dynamic change of atmosphere. It is susceptible for predict weather in large areas at a time.

**CONCLUSION:**

Naive Bayes algorithm is based on probability and j48 algorithm is based on decision tree. From the result we see time to build the model is less when using Naive Bayes and correctly classified instances are more when using Naive Bayes and prediction accuracy is also greater in Naive Bayes than of J48. Hence it is concluded that Naive Bayes perform better than of J48 on diabetes dataset.

**REFERENCES:**

<https://www.researchgate.net/publication/265750889> Application of Data Mining Techniques in Weather Prediction and Climate Change Studies.

# Estimating the Data Using the Training Set and Cross Validation

|   |  |   |   |               |    |
|---|--|---|---|---------------|----|
| 2 | 14071A0508<br>15075A0508<br>14071A0507<br>15075A0510 | Bhamidipati Srikanth<br>B Madhava Reddy<br>B Raju<br>V Tirumalesh | Estimating the data<br>using the training set<br>and cross validation | Dr. Ch Suresh | IV |
|---|--|---|---|---------------|----|

**Name of the course** : Data Mining and Data warehousing

**Year / Semester** : IV- B.Tech I-semester

**Project Title** : Weather Prediction and Climate Change Studies

**Aim** : classify data to find out the percentage of correct classified instances and also to find out which estimate is more realistic.

## ABSTRACT

Estimating the data using Training Set and Cross Validation is used to classify data to find out the percentage of correct classified instances and also to find out which estimate is more realistic. We experiment this on iris.arff dataset. We perform this classification using Weka tool which is an open source software issued under the GNU General Public License. Weka tool consists of 5 applications namely Explorer, Experimenter, KnowledgeFlow, Workbench, SimpleCLI. To perform the task, we first study the various pre-processing techniques for improving the quality of raw data. We use the unsupervised filter for discretization of data as pre-processing step. Now, we understand and explore the various algorithms for classification. Then, we perform the classification on the data and analyze the results.

## REQUIREMENTS

**Software Requirements:** Software requirements deal with defining software resource requirements and prerequisites that need to be installed on a computer to provide optimal functioning of an application. Weka (Waikato Environment for Knowledge Analysis) is an open source software under the GNU General Public License. Weka is a collection of machine learning algorithms for data mining tasks. The algorithms can either be applied directly to a dataset or called from our own Java code. Weka contains tools for data preprocessing, classification, regression, clustering, association rules, and visualization. It is also well suited for developing new machine learning algorithms.

## **INSTALLATION:**

Begin by downloading Weka 3.8 which is the latest stable version from <http://www.cs.waikato.ac.nz/ml/weka/downloading.html> website. Stable versions receive bug fixes. Weka 3.8 feature a package management system that makes it easy for the Weka community to add new functionality to Weka.

## **CONCLUSION**

From the above classification, we observe the following

- ✓ Correctly classified instances using Training Set is 50(33.33%)
- ✓ Incorrectly classified instances using Training Set is 100(66.67%)
- ✓ Correctly classified instances using Cross Validation with 10 folds is 50(33.33%)
- ✓ Incorrectly classified instances using Cross Validation with 10 folds is 100(66.67%)
- ✓ Correctly classified instances using Cross Validation with 20 folds is 40(26.67%)
- ✓ Incorrectly classified instances using Cross Validation with 20 folds is 110(73.33%)

So, from the above observations we can conclude that Training Set is more realistic because correctly classified instances in Cross Validation change with respect to number of folds. But correctly classified instances in Training Set is consistent for a dataset.

## **Creation of Chat Monitor with Multiple Connected Clients in a Network using Threads**

|          |   |  |  |                        |            |
|----------|---|--|--|------------------------|------------|
| <b>3</b> | <b>15071A05J0<br/>15071A05L5<br/>15071A05K6<br/>15071A05J7<br/>15071A05I4</b> | <b>C Vishnu Vardhan Reddy<br/>P Varun<br/>M Swaroop<br/>G Rohit<br/>A Rama Krishna</b> | <b>Creation of Chat Monitor with Multiple Connected Clients in a Network using Threads</b> | <b>S Kranthi Kumar</b> | <b>III</b> |
|----------|---|--|--|------------------------|------------|

**Name of the course** : Operating Systems and Computer Networks

**Year / Semester** : III- B.Tech I-semester

**Project Title** : Multi-Threading Application in C.

**Aim** : Creation of Chat Monitor with Multiple Connected Clients in a N/W using Threads

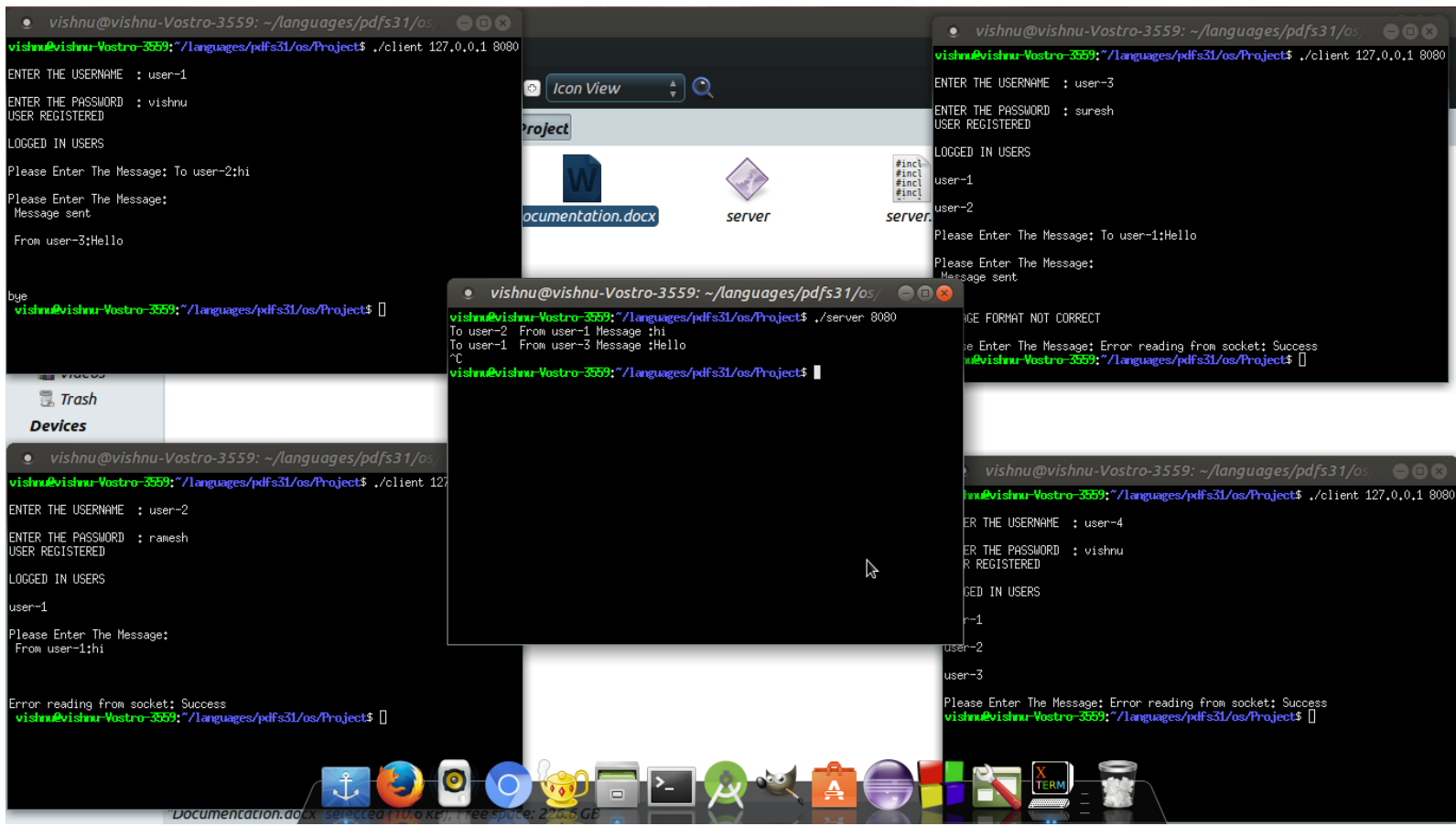
### **ABSTRACT**

This project deals the implementation of client program for the multi-threaded chat application. Till now all examples in socket programming assume that client first sends some information and then server or other clients responds to that information.

In real world, this might not be the case. It is not required to send someone a message in order to be able to receive one. A client should readily receive a message whenever it is delivered to it i.e. sending and receiving must be implemented as separate activities rather than sequential. There is a very simple solution which uses threads to achieve this functionality. In the client side implementation we will be creating two threads

### **OUTCOME OF THE PROJECT:**

The Chat Server Monitor the Activities of Multiple Connected Clients. Clients connected to the server can send messages to any of the Connected Users in the Specified Format. A file able to store the Information of All the registered Users for every new Session. A Console I/O Bases Application Which Creates a Chat Room for the devices connected through a Common Network.



## RUIAR in Unity

|   |  |  |                |                |     |
|---|--|--|----------------|----------------|-----|
| 4 | 16075A0520<br>16075A0521<br>16075A0522<br>16075A0523<br>16075A0524 | P.Ramakanth<br>Ramesh<br>Sainath<br>Nagaraj<br>Manoj Kumar | RUIAR in Unity | P.Rama Krishna | III |
|---|--|--|----------------|----------------|-----|

**Name of the course** : OBJECT ORIENTED ANALYSIS AND DESIGN

**Year / Semester** : III-B.Tech I-semester

**Project Title** : ruAR in Unity

**Aim** : create an integrated measurement system with the help of 2 or more image targets

### ABSTRACT:

This project will create an integrated measurement system by a small app called “ ruAR ”. with the help of two or more image targets we can check or get the complete measurements Like length, area, perimeter & shape of the object\_as how image targets are placed . By using this application we can measure objects measurements with the help of a simple app & image targets. ruAr in Unity is setting the basis for the customer to be virtually immersed in a complex augmented reality, just as any other customer should carry all measuring accessories.

### INTRODUCTION

Increasing the power of mobile devices and smart phones has significantly contributed to the progress of augmented reality (AR) applications becoming mobile.

The first ever mobile AR system, called “The Columbia Touring Machine”, had to use a wearable laptop together with GPS and Orientation sensors housed in a backpack.

In comparison, current day mobile and hand-held devices such as Smart phones and tablet PCs contain similar sensors and computing power and are capable of much the same, if not more.



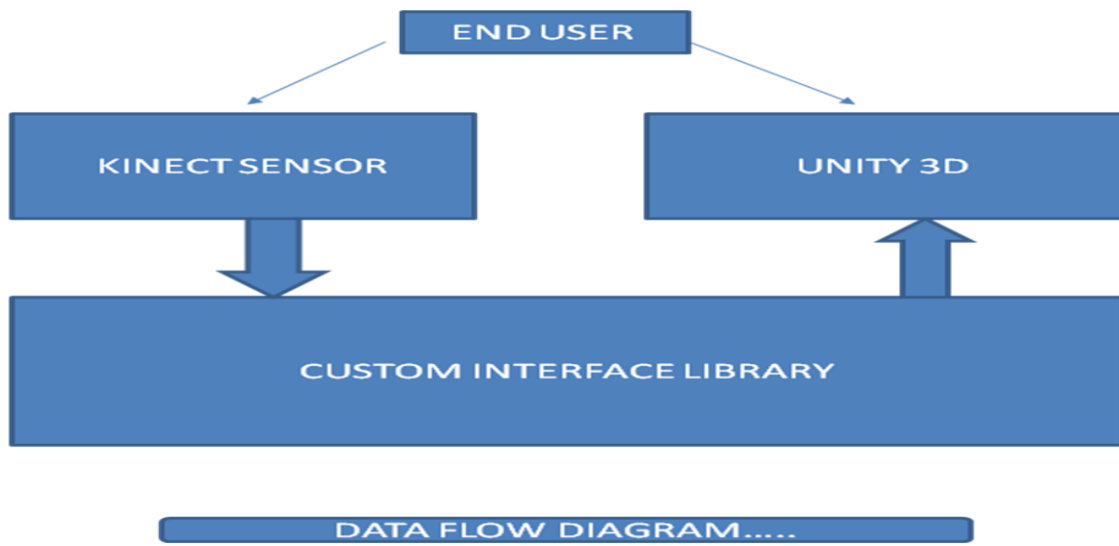
## **Product Functionality**

- Unity 3D, vuforia based ruLAR app used to access the camera.
- The screens display the augmented reality as an integrated panoramic viewing window.
- The augmented environment's viewable segment will be based on the perspective of the user according to the user's location.
- The user's object measurement is calculated based on the distances and angles in reference to the ruLAR
- This ruLAR are mounted on the screens.
- The system is scalable, meaning multiple ruLAR can be added and the system will remain functional and stable.

## **USERS AND CHARACTERISTICS :**

The primary users of this product are going to be academics in the fields of science. Any one can use this application .

- **OPERATING ENVIRONMENT :**
  - Android
  - 5.1.1
  - Mobile with minimum of 8MP clarity
- **OPERATING SYSTEM :**
  - Windows 7,Windows 8,Android
- **HARDWARE :**
  - Android mobile phone
  - Image targets



**User Interfaces:-**



**USE INTERFACE**



The 2d printed colour images on a simple paper the target image should have good tracking capability . So image is quickly detected.  
 Since it visibly tracks the image target, there is literally no user input required .

## **SOFTWARE INTERFACES**

- Since the rulAR application is designed for android , most of the development will be on android based machine .
- It is to our custom interface library to aggregate the data and create a final scene control stream that will be fed into the Unity 3D interface .
- Unity will take care of the camera control .
  - Other Non-Functional Requirements
  - PERFORMANCE REQUIREMENTS :
- The user should keep close camera of the rulAR
- The system should run in Real-time .
- Should be able to track only 5 targets in the Workspace
- Should be able to run on commercially available android platforms .
- Sketch goals include increasing the number of rulAR for a wider range of view and increasing the number of users present in the workspace .

## **CONCLUSION:**

The main intention of this project is to allow a user to realistically experience an visual measurements that all measuring devices could not otherwise be physically present in .Marias technologies wanted to simplify the process of tracking movements by Cameras and transferring these movements to an augmented reality, Simplifying the process entails decreasing the cost of the system as a whole. Our project provides the foundation for this significant benefit.

# Implementation of Sub Netting Strategy on Physical Networks for Creation of Multiple Logical Networks

|   |  |  |            |                 |     |
|---|--|--|------------|-----------------|-----|
| 5 | 15071A0585<br>15071A0591<br>15071A05A6<br>15071A05B1 | K.Sai Chand<br>Md.Sulaiman<br>P.Lakshmipathy<br>Sheikh Mujahed | Subnetting | Tejaswi Potluri | III |
|---|--|--|------------|-----------------|-----|

**Name of the course** : Computer Networks

**Year / Semester** : III-B.Tech I-semester

**Project Title** : Sub netting

**Aim** : To analyze the output of sub netting and write C++ program .To obtain subnet mask for given IP Address with respective Classes.

## **ABSTRACT:**

Sub netting is the strategy used to partition a single physical network into more than one smaller logical sub-network (subnets). A subnet allows the flow of network traffic between hosts to be segregated based on a network configuration. By organizing hosts into logical groups, sub netting can improve network security and performance. An IP address includes a network segment and a host segment. Sub netting allows network administrators some flexibility in defining relationships among network hosts.

## **ALGORITHM:**

- 1) Taking a IPv4 address and subnet mask to perform sub netting
- 2) Clear the octet mask vector
- 3) Determine Binary Notation
- 4) Get IP binary Notation
- 5) Get Subnet binary representation
- 6) Perform ANDing of IP and Subnet mask to generate network ID range
- 7) Turn Binary back to decimal
- 8) Get the network increment
- 9) Get network ID range
- 10) Get Subnets
- 11) Get hosts per subnet
- 12) Get Subnet masks and octets
- 13) Print Initial user IP and subnet mask
- 14) Print Binary Representation
- 15) Print IP Class and Subnetting Details

## SAMPLE OUTPUT:

```
///// -- IPv4 Subnetting Calculator -- \\\\  
||| | ----- dev. by Sai Chand,Sulaiman,Lakshmipathy,Sheikh Mujahed ----- ||| |  
  
Please enter four octets in dot notation.  
Enter IPv4 Address -> 192.168.0.4  
  
Please enter four octets in dot notation.  
Enter subnet mask for 192.168.0.4 -> 255.255.255.0  
  
////////////////////////////////////  
/// IP Address: 192.168.0.4  
/// Subnet Mask: 255.255.255.0  
////////////////////////////////////  
  
////////// Binary Representation //////////  
-----  
11000000.10101000.00000000.00000100 : IP Address  
11111111.11111111.11111111.00000000 : Subnet Mask  
-----  
  
////////// Class Information //////////  
-----  
IP Class: Private block, Class 'C'  
Default Class Subnet Mask: 255.255.255.0  
-----  
  
////////// Subnet Details //////////  
-----  
Network ID:           -           Broadcast ID:  
-----  
192.168.0.0 - [ usable hosts ] - 192.168.0.255  
  
Network Increment: 1  
Number of Subnets: 1  
Usable hosts per subnet: 254  
-----  
  
Would you like to enter another IP Address to subnet? (y or n):
```

## LIMITATIONS:

Not implemented for IP V6 address

## CONCLUSION:

Sub netting implemented successfully.