

# Vasavi College of Engineering

## Department of Computer Science and Engineering

### A Report on Guest Lecture Delivered by Prof. C. Krishna Mohan on “Artificial Intelligence (AI)” Conducted on Feb 26<sup>th</sup>, 2013.

A Guest Lecture on “Artificial Intelligence with a special emphasis on Hidden Markov Models ” was delivered by Prof. C. Krishna Mohan, CSE H.O.D ,IIT Hyderabad for the students audience of M-Tech (CSE) 1<sup>st</sup> and 2<sup>nd</sup> year on Feb 26<sup>th</sup> ,2013.



The speaker has started off the session with a questionnaire to seek the knowledge levels of the audience assembled in the hall .

What is modeling?

What is Markov process? Etc...

The Speaker Mr. C .Krishna Mohan has delivered a session covering the brief introduction to the following two Signal Models

1. Deterministic Model (Eg: Sine Waves, Sum of Exponentials)
2. Statistical Model (Eg: Gaussian Process, Markov Process, Hidden Markov process)
1. Observation symbols(M)
2. States(N)
3. Transaction probabilities
4. Observation symbol probabilities.
5. Initial State Probabilities.

#### Discrete Markov process:

This is a First Order Markov Process. This model has N set of distinct states  $S_1, S_2, \dots, S_n$  and  $A_{ij}$  as State Transaction Probabilities. It considers all previous states and the current state.

Speaker has restricted his discussion to current and only one previous state for simplicity and demonstrated 3 State Markov Model for weather.



The Speaker has taken forward the session by delivering Hidden Markov Model. Basically Hidden Markov model is Parametric Model having 5 elements as follows

Speaker has explained the physical process for obtaining observations, and has stressed that Markov Model can also be used for time varying patterns.



The speaker has concluded lecture by narrating the Urn and Ball model. The issues in Hidden Markov Model and Counter Solutions.