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Neuro-Fuzzy System: A Boon to Artificial Intelligence

Artificial Intelligence is generally associated with computer science, but it has many important links with other fields such as maths, psychology, philosophy and many others. Unlike humans, computers have trouble in understanding specific situations and adapting to new situations. AI aims to improve machine behavior in tackling such complex tasks. Thus it is a branch of science which deals with helping machines, find solutions to complex problems in a more human-like fashion. Though AI has various approaches, soft computing is an integral part of it. Unlike conventional computing, soft computing is tolerant of imprecision, uncertainty, partial truth and approximation. The principle constituents of soft computing are Fuzzy Logic (FL), Neural Computing (NC), Machine Learning (ML) and Probabilistic Reasoning (PR). The principle constituent methodologies are complementary rather than competitive. The theory of Fuzzy logic provides mathematical strength to capture the uncertainties associated with human cognitive process, such as thinking and reasoning. Fuzzy logic allows decision making with estimated values under incomplete or uncertain information. Artificial neural networks are simplified mathematical models of brain like systems and function as parallel distributed network. The most important advantage of neural network is its adaptivity. Adaptivity allows the neural network to perform well even when the environment or system varies over time. While fuzzy logic provides inference mechanism under cognitive uncertainty, neural network offers adaptation, fault tolerance, parallelism and generalization. To enable a system to deal with cognitive uncertainties in a manner more like humans one may incorporate the concept of fuzzy logic into neural networks. The resulting hybrid system is called fuzzy-neural, neural-fuzzy, neuro-fuzzy, fuzzy-neuro networks. Neural networks are used to tune membership function of fuzzy systems that are employed as decision making systems. In theory, fuzzy systems and neural networks are equivalent in that they are convertible. But each has its own advantages and disadvantages. Hence co-operative approaches use neural network to optimize certain parameters of an ordinary fuzzy system, or to pre-process data.

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Civil



Two days National Level students program was organized by Civil Engineering Dept on 2nd & 3rd Oct, 2015 under the chairmanship of Hon. Principal, Head Of Dept., Convener and Coordinator- Prof. A. R. Gupta. Event includes paper presentation, Quiz, Model Making, & Poster presentation. Event received wide response with entries of more than 250 students from various institutes. Hon. Dr. G.R.Shekapure(Chief Guest), Supdt. Engr. MJP (Shri. Gokhale) and Er. Shri Ajay Malokar (MJP) were guest of honor for the event.



Kaushalya-2015

In Kaushalya-2015, Valedictory Function was conducted soon after the successful completion of all events in presence of Hon. Madharaoji Bhuibhar (Vice-President, SSES, Amaravati), and other committee members. Students were awarded with prizes for their achievements.

Computer



A personality development course for twenty days on “ **English and HR interview**” was organized by Computer department for the students of final year. Course was conducted by Prof. Sheela Mundhada, a HR expert from Akola.

Computer Science & Engineering

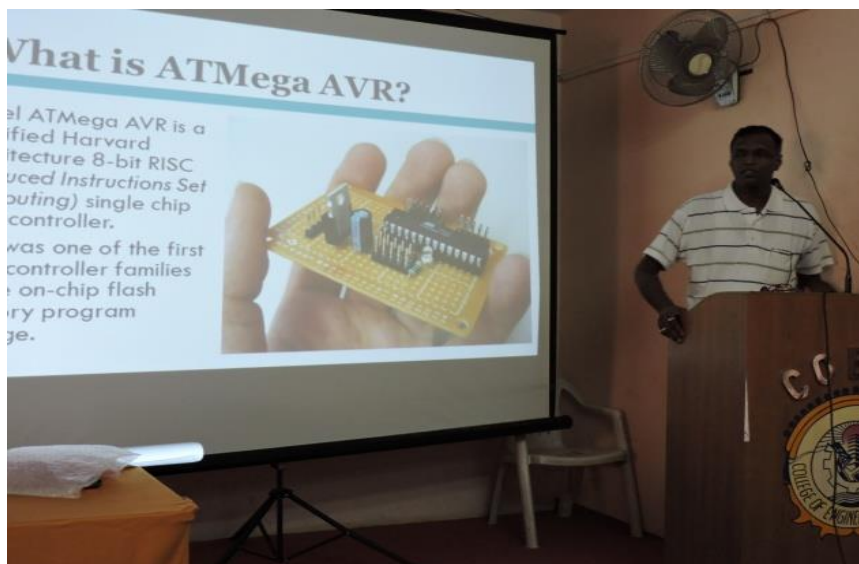


ENGINEER'S DAY

1st Anniversary of CSE BYTE was celebrated on the occasion of Engineer's day. Event was inaugurated by Hon'ble Principal Dr. S. K. Deshmukh. Dr. P. V. Durge, Head, Dept. of Civil Engineering, was the chief guest for the program. Program is largely attended by the students and staff of computer engineering department.

EXPERT TALK

An expert talk of Prof. Vidyasagar from RLT Science College, Akola was organized. Prof. Vidyasagar delivered his speech to motivate students towards Robotics innovative projects. He stressed its need in current scenario with many examples using power point presentation. Talk was attended by almost all students of computer engineering and mechanical engineering students also attended the function.



Departmental Activities

Chemical Engineering

INDUSTRIAL VISIT

- 1) Department of Polymer Technology, Students Association of Polymer Technology along with students of Chemical Engineering jointly organized an Industrial visit at Sanjay Tent Works, M.I.D.C, Akola on dated 14/08/2015. New modern concepts in tent manufacturing and application technologies were demonstrated by the Manager (works) of the company. Students too have taken keen interest in new technology and actively participated in feedback and suggestions.
- 2) Department of Polymer Technology and Students Association of Polymer Technology had jointly organized an Industrial visit at Paras Thermal Power station on dated 17/10/2015. Students observed use of many new polymers in thermal power plant.

EXPERT TALK

- ❖ Department of Polymer Technology, Students Association of Polymer Technology and CESSCAA had jointly organized an Expert Talk on date 03/10/15.

STUDENTS ACHIEVEMENTS

- ❖ Mr. Kunal Wadgaokar & Mr. Ronit Samarth has won first Prize in Poster Presentation competition at Muramba, Murtizapur.
- ❖ Mr. Yogesh Var has been selected in Bajaj Plastics, Nagpur.
- ❖ Mr. Hitesh Sharma has been selected in Rainbow Polymer, Pune.
- ❖ Mr. Manav Panchoni, Final Year B.Tech Polymer has been selected in PARAG PENTACHEM PVT. LTD. Indore.
- ❖ Mr. Kapil Bhalerao & Mr. Vikesh Chavan Final year B. Tech has been selected in PHENOLEX, PVT . LTD, Pune.

Architecture Department

1. Prof S. V. Dhokane attended a conference on "Basic Services to Urban poor" on Oct. 16, 2015, at MANIT, BHOPAL.
2. In "Aai Mahotsav" at Muramba, Murtizapur, Akola on 11/10/15, Ms. Dhanashree Pande took part in poster making on the theme "Cost effective Tech. for Housing in Vidabha".
3. On 26th Oct. 2015, Mr. Gajanan Dhongade, a famous cartoonist, conducted a workshop on "Demonstration of cartoon & mimicry making", for the students of architecture.
4. Mr. Satish Pimple, on 3rd Oct. 2015, delivered an expert talk on "Demonstration of Landscape Painting" for the students of architecture.
5. "Model making" concepts are elaborated by Mr. Milind Palaskar, on 17th Oct. 2015.

Mechanical Engineering:

PRESENTATION OF TRICYCLE MODEL



Students of final year Mechanical Engineering got first prize for model of “Water Purification System by using Tricycle” in Model Exhibition at Muramba, Murtizapur. Suyog Rokade (Final Year Mechanical Engineering) Manish Kukadkar (Final Year Mechanical Engineering) Akshay Gadling (Final Year Mechanical Engineering) demonstrated their project.



EXPERT TALK ON “CRYOGENICS”

Building Operational Energy Optimization Technique Waste Filled Cavity Wall

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Abstract : Emerging crises for resources and energy has become one of the major global issues. Unstoppable population and urban growth is demanding shelter. The figure for estimated housing shortage across the world according to the internationally recommended standards is 428,700,000units.By the year 2030, an additional 3 billion people, about 40 percent of the world's population, will need access to housing. This translates into a demand for 96,150 new affordable units every day and 4000 every hour.(United Nation -Habitat:2005)(128). All this unstoppable global population growth is resulting in high demand supply gap between resources and thus present trend concentrate to satisfy and minimize this gap. This shooting urbanization problem is leading towards diversion for easy and fast construction methodology. Along with this the problems associated to it are also increasing globally. The problem of Urban Heat Island and Urban Canyon Effect, CO2 emission , Green House Effect , Resource depletion and all such problems are demanding global attention to overcome it and make habitant sustainable for safeguarding future generations to come. The major hurdle for application of sustainable construction is barrier of human mind who concentrates more on initial cost of construction and negligence towards operations energy cost and pay back period calculations. The aim of the paper is to show feasibility of application of waste in construction elements like wall by analysing thermo resistive property of such waste filled cavity wall and equivalence cooling effect calculations for conventional clay brick wall , AC sheets , cavity wall and various waste filled cavity wall by making model and process of simulation using Ansys Fluent .The results of research work shows feasibility of adopting cavity wall and waste fill cavity wall for construction of wall because of its high thermoresistive property so as to mitigate global problems like Urban Heat Islands and operational energy consumption.

QUOTE FOR LIVING

Life is 10% What happens to us
And
90% how we reacts to it.

-Dennis P. Kimbro

✓ HEALTH CORNER

A healthy, well balanced diet guarantees proper health throughout the year. But, in cold months you must favor fresh food items and seasonal food products.