

NEWSLETTER

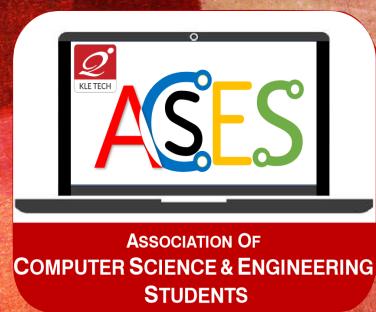
SCHOOL OF COMPUTER SCIENCE

“Unity is strength. When there is team work and collaboration, wonderful things can be achieved.”

VISION

The KLE Tech School of Computer Science will excel and lead in education, research and innovation in computing and information technology, contributing to the evolving needs of the world we live in.

- 1. STUDENTS ACHIEVEMENTS**
- 2. STAFF ACHIEVEMENTS**
- 3. ACTIVITIES CONDUCTED BY THE ASSOCIATION**
- 4. WORKSHOPS AND SEMINARS**
- 5. ARTICLES**



HOD'S MESSAGE



It gives me a immense pleasure to welcome all the students and faculty to the academic year 2017-18. It has been an eventful semester for members of the School of Computer Science & Engineering, KLE Technological University, Hubballi.

It is an exciting & challenging time at School, as we are in midst of a journey towards making a mark as one of the top universities in engineering education.

The objective of the newsletter is to bring to you all, the report of all the exciting academic & co-curricular activities.

I would like to thank all my colleagues & students for their contributions towards the newsletter.

**Dr. Meena S. M
Head of SoCSE**

STUDENTS ACHIEVEMENTS



**Vinuta S.
Lakkamannahalli**
Won Bronze medal & Cash
Prize of Rs. 8000/- in
10m Air Riffle State Level
Shooting Championship,
held on 19/08/2017.
She also won Silver medal
in Hubli open Shooting
championship held on
30/01/2018.

Keerthan Ugrani and Team

Selected in Top 10 teams
in ACCS Design
Challenge 2018 held at
IIIT Bangalore for Li-Fi
communication with
advanced encryption
standard on ARM cortex
M3 1768 embedded
board.



Shweta Gumasate and Team

Won Bronze crown in INS
Zoom Hackathon held on
March 10/11/2018.

Navya Telang

Won 1st place in
Business-Plan Hackathon
at KLE Technological
University Hubli

Abhishek Sawant and Team

Won National Budding
Innovators Award 2017,
with Cash Prize of 1 Lakh
for the Innovation
Entitled: Drushti.
At VigyanBhavan, New
Delhi

STUDENTS ACHIEVEMENTS



**Preeti C Pardeshi,
RajeshSatpathy ,
Prajakta Desai ,
Nithin R.**

Secured 3rd Place, cash prize of 50,000/- in 48 hours long Hackathon organized by SBCF in-tech startup Boot Camp in Mumbai on 06.10.2017.

Spoorthi V secured 1st place in 36 hours National Level Hackathon held at Infosys Campus, Hubli.

**Computer
Science students**

Had participated and were nominated among the top 100 teams of India in ACM ICPC Indian National Coding competition.

**Shifanaaz
Mulla& Santrupti
Mundinamani**

Won 1st prize in IOT application based project competition held at Pune on 17.06.2017.

**Vanishree B
Katakol and
Team** were judged as 2nd runner up in Bosch Inscribe.

**Swathi
Agarwal**

won 3rd place at Business-Plan Hackathon at KLE Technological University Hubli.

Sindhu Hegde

Participated in Reverse Coding, Quarks, Bits Goa on 11.02.2018.

"A dream becomes a goal when action is taken towards its achievement"

STAFF ACHIEVEMENTS

PhD Awardees

Name of staff		Area	Topic
G.S.HANCHINAMANI		Information Security	New approaches for image encryption using chaotic map.
SHRINIVAS.D. DESAI		Medical Image Processing	Image Processing reconstruction of image form incomplete medical data.
NARAYAN D.G.		Computer Networks	Cross Layer design in mesh networks

STAFF ACHIEVEMENTS

IUCEE Faculty Fellow and Outstanding Engineering Educator Award



Prof. Vijayalakshmi M. was awarded IUCEE Faculty Fellow and Outstanding Engineering Educator.

SPECIAL DAYS CELEBRATION

Teacher's Day

Teacher's day was observed & celebrated in our department on 5th September 2017. It is a day to pay respect to the teachers and thank them for their efforts & hard work. The function was organised by the students association. The staff were honoured by the students for their dedication and passion in shaping them to become better engineers. The School head Dr. Meena S M shared her experience about her teaching career.

Neophytes 2k18

Neophytes 2k18, fresher's party was arranged for fresher's of 2017 batch. The aim of conducting this day is to make the juniors feel welcome and to interact with them. Our HOD, Dr. Meena S M, spoke about the Loral's of the department and highlighted the significance of our department in the industry.



SPECIAL DAYS CELEBRATION

Engineer's Day 2017

Engineer's day is celebrated on 15th September every year as a tribute to the greatest Indian Engineer Bharat Ratna Mokshagundam Visvesvaraya. Our School head Dr. Meena S M in her speech pointed out the extraordinary qualities of Sir M V and urged the students to set him as their role model in order to be great engineers with technical skills as well as personal qualities. Technical quiz was organised on the day. Prizes were distributed to the students, who won prizes in various competitions held.



“ Engineers are the people who discover the world by their pen and brain”

SPECIAL DAYS CELEBRATION

Manan 2018

Farewell party, Manan was arranged for final year students of 2015-18 batches. The purpose of the event was to bring every final year student together and wish them the best for their future. The final year students shared their experience in the college.



"If you're brave enough to say goodbye,
Life will reward you with a new hello"

WORKSHOPS & SEMINARS

Blueprint Pedagogy

Resource person: Mr. Prakash Hegde

Date: 19th August 2017

A workshop was conducted for the faculty and the 2nd year students. The aim of this workshop was to teach them regarding the different phases of building a software product. The students were given step by step knowledge, starting from the research phase, till the implementation and testing phase.

Workshop on C



Resource person: Mr. Prakash Hegde and Student volunteers from 5th semester.

Mr. Prakash Hegde and volunteers from 5th semester conducted workshop on C programming. Target Audience were 2nd Year Students. The objective of the workshop was to revise the C programming portion which helps students in the course Data structures and Algorithms.

WORKSHOPS & SEMINARS

Career Guidance

Resource person: Mr. Prasad from AECC Global

Date: 25th sept 2017

The AECC Global Education consultancy conducted workshop on Higher studies for pre-final year students. AECC Global Education is currently ranked as the number 1 in Australia as an Education consultancy. AECC provides counselling to students who wish to study in Canada, Australia, UK, USA, Ireland, New Zealand and now India. Mr. Prasad provided information regarding the counselling process and about the scholarships that can be availed for students who wish to study further.



WORKSHOPS & SEMINARS

Workshop on Machine Learning

Resource person: Mr. Moula Hussain.

Date: 7th Oct 2017

Venue: BT Auditorium

Workshop on Machine Learning conducted for 5th semester students. The objective is to provide overview of machine learning algorithms and their applications .The students were taught about various regression and classification algorithms and were also taught about how to handle a given real world problem .

Industry Expert Session

Resource person: Mr. Mallikarjun Hadimani

Date: 9th June 2018

Industry Expert Session on Professional Skills Development was organized for pre-final year students of School of Computer Science. Mr. Mallikarjun Hadimani shared his experience on preparing professional CV, preparing for Mock HR and Technical interviews.During his talk, he explained how fresher's can build their professional CV with all required elements.

WORKSHOPS & SEMINARS

Workshop On Junos Operating System

Date: 09th and 10th March 2018

Junos OS is the FreeBSD-based operating system used in Juniper Networks hardware routers. The workshop provided a brief overview of the Junos device families and key architectural components of the software.

Akamai Tech Talk- Tech Challenges and Solutions of Streaming Big Events Live

Date: 30th April 2018

A technical talk was conducted by a team from Akamai Technologies. The experts discussed about their company and different challenges and their respective solutions relating to the Big Events Live. The students were encouraged to participate in such kind of projects so that they will have a great experience before they get into a company.

CO-CURRICULAR ACTIVITIES

Placement Yoga

Placement Yoga is an annual event conducted by the final year students. The objective is to guide students to choose right career and to give knowledge, skill, and aptitude and meet the manpower requirements of the Industry. It helped students to understand the recruitment process of various companies and their offerings. The final year students explained the recruitment process and gave some important tips to the students.

Byjus Career Guidance

The session helped the students to understand various Career Avenues in India and abroad and the rigorous selection criteria involved. It also provided them insights into the relevant steps required to prepare for GRE/CAT/GMAT/UPSC /GATE.

Pleiades

Pleiades is a national level technical fest conducted in our college. Students from various departments participate and exhibit their technical skills. Various technical events like Tech-Gangsters and Tech-Splash were held.

COMPETITIONS/ HACKATHONS

Inscribe 2017- Technical paper presentation

Domain: Software, Electronic, Manufacturing, Plastic

INSCRIBE is a 'Bosch India level Presentation Contest'. As part of Personnel Marketing and Employer Branding every year INSCRIBE-Celebrating Innovation, is conducted at Bosch. The event is organized separately for engineering colleges as well as management colleges.



INS Zoom Hackathon- International

Date: 10th March 2018

The 24 hours Hackathon conducted by INSZOOM in KLE Tech campus. Problem definitions were given by the company. Monitoring and assistance from the company on the day, as well as session delivered through webinar a day before.

COMPETITIONS/ HACKATHONS



Inauguration



Monitoring and interaction with Zoomers from
Registrar Prof. B.L.Desai



COMPETITIONS/ HACKATHONS

Smart India Hackathon 2018

Date: 30th & 31st March 2018

Smart India Hackathon is nationwide initiative to provide students a platform to solve some of the pressing problems we face in our daily lives. It is a non-stop digital product development competition, where problems are posed to technology students for innovative solutions. Inter Institutional Inclusive Innovations Centre (i4c) is an independent, non-profit entity which identifies and facilitates people with out-of-box ideas or innovative working prototypes.

Winners: Teams from different colleges won the event. (Gen-Y, Ideators_for_change, What-The-Bug, Negatives, MockingJays)



ARTICLES

Life and Technology

-Prakash Hegde

Three significant and immensely necessary skillful values you want to impart to your kids or the next generation to sustain in this world.
#Values

Here are the three Skillful values for the kids of upcoming generation:

- Technology is not life
- Technology! Is not life
- Technology, is not life

Technology is not life

You will see many gadgets along you grow. They will be in need along the ride. They are the support system of life. But they are not life. The aim of life is to use technology only to increase the comfort level.

Technology! Is not life There is life outside. Talk to people. As much as possible do works by interacting to people. Make friends. Learn the values. Help the needy. Get the works done online only while in critical need. For technology will not teach the life lessons. There are beautiful people out there!

Technology, is not life

Technology comes with a comma not a period. Use it to bridge the gap. It must act as connector between two. Use technology to travel. Use it to explore. Use it to learn. Use it to invent. Learn, write and share!

ARTICLES

Human Solving Problem

-Prakash Hegde



The Process

Machine solving should not be like a magic making process. Along with result, it is equally important to know the process by which the results were obtained. The thinking process of the machine must be like the way we humans do. The way humans have patterns in their thoughts, it should be embedded in the machine as well so that they can perform the tasks just like we humans do. When a human solves a problem, he learns it through the solution. The same capability has to be raised with machines as well. However the machines will have to store these patterns in the form of data and need construction of an information processing language to process the data.

Differences and Similarities

Machines and humans differ in several ways. There are problems that humans can find difficult which machines can easily solve and vice versa. There are similarities and differences between the behavior of program and human subject.

ARTICLES

The Problem Space

A machine should be able to identify the correct problem space with the given task. So essentially we have task environment and problem space. A machine should be able to identify what is rote and what is meaningful information for the task. Constructing the problem spaces can happen with various information sources. The task instructions, previous experience of same task, previous experience with analogous tasks, generalisation of range of tasks, using task instructions for constructing new problem space and information accumulated while solving a problem. Just like the process people follow, machines should carry out selective search in a problem space and incorporate some of the structural information of the task environment.

“All the effort lies in making a machine more like a human being.”

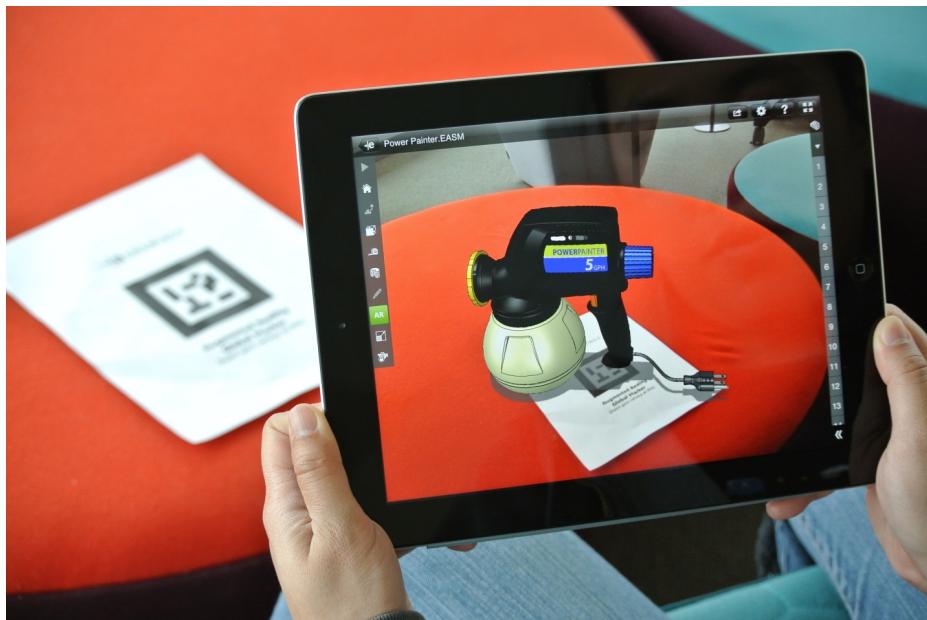
The Solution

Once when we have problem space, the machine finds the solution by visiting node after node (state after state) and each of the nodes can be ranked. The problem solver learns iteration wise and explores for the next right state of information. This exploration can happen by progressive deepening or scan and search strategies. It starts by asking a question and to the solution to it might consist of several other questions. The particular heuristic search system that finds differences between current and desired situations finds an operator relevant to each difference and applies an operator to reduce the difference is usually called the means-ends analysis.

ARTICLES

Augmented Reality

-Sushant Huilgol



A new study from Stanford's School of Humanities and Sciences has found that augmented reality (AR) experiences significantly affect people's behavior in the real world, even after they've taken the headset off.

Using 218 participants and a pair of AR goggles, researchers led by Professor Jeremy Bailenson conducted three experiments.

The first showed a realistic 3D person called Chris sitting on a real chair in the room (AR layers digital images over the physical world, rather than creating a whole new world like VR). Participants had to complete anagram tasks while Chris watched, and as with the presence of a real person in the room, his presence meant they found hard puzzles more difficult than without 'someone' watching them.

ARTICLES

The second experiment looked at whether participants would sit in the chair previously occupied by Chris. Even though he was no longer there, none of the participants still wearing the AR headset sat in that chair. Without the headset, 72% still avoided Chris's chair and sat in the one next to it instead.

"The fact that not a single one of the subjects with headsets took the seat where the avatar sat was a bit of a surprise," Bailenson comments. "These results highlight how AR content integrates with your physical space, affecting the way you interact with it. The presence of AR content also appears to linger after the goggles are taken off."

In the final experiment, researchers paired a person wearing an AR headset with a person without. The two had a conversation, after which the people wearing goggles said they'd felt loss of a connection with their partner.

"We've discovered that using augmented reality technology can change where you walk, how you turn your head, how well you do on tasks, and how you connect socially with other physical people in the room," explains Bailenson, who co-authored the paper with graduate students Mark Roman Miller, Hanseul Jun and Fernanda Herrera. The research is published in PLOS ONE this week.

ARTICLES

Approach to Tamper-Proof Records: Block Chain Technology

-Praveenraj Pattar

Blockchain technology is the digital and decentralized book(ledger) to keep track of all the transactions. Every time the transaction happens, a ledger which is shared and immutable records the transaction and processed without a third party as in financial services, for example. Blockchain technology offers the intriguing possibility of eliminating this “middle man” concept. It does this by filling three important roles – recording transactions, establishing identity, and establishing contracts – traditionally carried out by the financial services sector. Worldwide, the financial services market is the largest sector of industry by market capitalization. If blockchain technology can replace just a fraction of that by enabling peer-to-peer transactions in other sectors, then it has the potential to create massive efficiencies [1]. A blockchain allows anyone to send value (money in most cases) anywhere in the world where the blockchain file can be accessed. Each chain is essentially just an online database, stored in a distributed, peer-to-peer fashion among its users. Cryptography ensures that users can only edit the parts of the blockchain that they “own” – by possessing the private keys necessary to write to the file. It also ensures that everyone’s copy of the distributed blockchain is kept in sync. As shown in the image below[2] are the few examples of companies working on block chain.

ARTICLES

Learning from Experience, Meta Learning

-Kiran Akadas

Machine Learning algorithms are becoming ubiquitous and are being used in almost all domains of life. It is not a buzzword anymore but one of the most important breakthroughs in the history of Computing. But, learning a specific task using a huge dataset and iterating over it, is not what one would term Intelligence from the perspective of Human Beings. Human Beings learn from past experience to adapt quickly to a new problem from a very small number of examples.

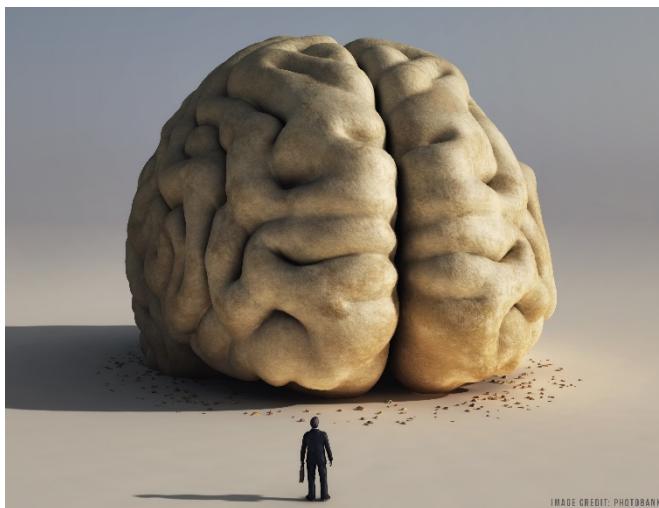


IMAGE CREDIT: PHOTOBANK

But how do we teach Machines to learn? The answer - Meta-Learning, a subset of Machine Learning aims at formulating models that adapt to new environment and acquire new skills using a very small set of examples. Consider a boy who has been using Windows XP for a while, now a shift in the OS to Windows 10 wont affect his work because he can adapt to it with minimal or even without any additional training. Similarly, Meta-Learning approaches a task given to it by learning to learn. Meta-Learning emphasises on learning new ways to do a task by observing the learning process of other machine learning approaches. These models act on top of other models and are trained using the meta-knowledge to select the best suitable model.

ARTICLES

One of the well-known Meta-Learning Algorithm called Neuro Evolution uses a set of Neural networks initialised with random weights, different number of neurons, activations, and optimisers. Each of the networks are trained using some dataset and they are scored to evaluate how well they perform in terms of any given task like classification. The highest scoring networks are further used for the next iteration. Also, we combine the features of 2 or more neural networks to obtain the best performing network along with some mutations or changes. The process finally yields an optimised network with better accuracy and also very low training times, reduced by up to 85% of the original time required for training. This process works in the same way Natural Selection works – the best fitting species survives, evolves and adapts to the environment.

Meta-Learning has recently been used for forecasting Alzheimer's-driven cognitive decline which gave the best results compared to all the previous attempts. Google, also used Meta-Learning to devise a State-of-art Image classifier. The reduced training times and more accurate algorithms are surely paving the way for the next-generation of Intelligent Systems.

THE TEAM

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