



NEW HORIZON
COLLEGE OF ENGINEERING

AI

DEPARTMENT OF
ARTIFICIAL
INTELLIGENCE &
MACHINE LEARNING

ML

APRIL 2022-
JULY 2022

NEWSLETTER

VOLUME 1
ISSUE 2

MESSAGE FROM THE PRINCIPAL



It gives me great pleasure to give my best wishes to the editorial committee of the Department of Artificial Intelligence and Machine Learning, New Horizon College of Engineering. The students and faculty of the department are always proactive in taking initiative in all kinds of events. I congratulate all the achievers, contributors and students for bringing out such an informative newsletter. I hope this newsletter reflects all activities of the department and inspires others to do their best.

Thanking you,

Regards

Dr. Manjunatha

MESSAGE FROM THE HOD



"Climbing to the top demands Strength, whether it is to the top of Mount Everest or to the top of your Career "- Dr. A P J Abdul Kalam

I take this opportunity to appreciate students, staff and family of AI & ML whose achievements, efforts and their hard work has been commendable. Activities of the Newsletter is to throw the shine of light the department has exhibited. I wish everyone the best and encourage to scale great heights.

Thanking you,

Regards

Dr. N V Uma Reddy

ABOUT THE DEPARTMENT



Artificial Intelligence is consistently clawing itself deeper into various industries, and clearly possesses great potential in the current market. It would be best described as an amalgamation of Data Science and Machine Learning. For the average Joe, Data is an elephantine amount of information with great scope for elaborate analytics.

Data Science encompasses investigation, interpretation and the conversions required to make the most of data. AI, stripped bare to its bones, is essentially the attainment of human cognitive behaviour, by the meshing in of Data Science and Machine Learning in a cohesive approach.

The department of AI&ML here at NHCE quintessentially focuses on the five pillars of AI technology- Data Science, Machine Learning, Deep Learning, Big Data Analytics and Visualization & Deployment of the predictive model. The calibre of any department is intrinsically defined by the professors it nourishes. Our department boasts a competent fraternity of ardent, motivated and experienced professors striving to equip their students with the skills to provide smarter solutions to the problems, existing and forthcoming. Paving the way for a brighter future, in the modern world.

The Department of Artificial Intelligence and Machine Learning at New Horizon College of Engineering was established circa 2020, and it offers a program at the UG level. The institution in all its grandeur is accredited by National Board of Accreditation (NBA) and by The National Assessment and Accreditation Council (NAAC) with the coveted "A" grade.

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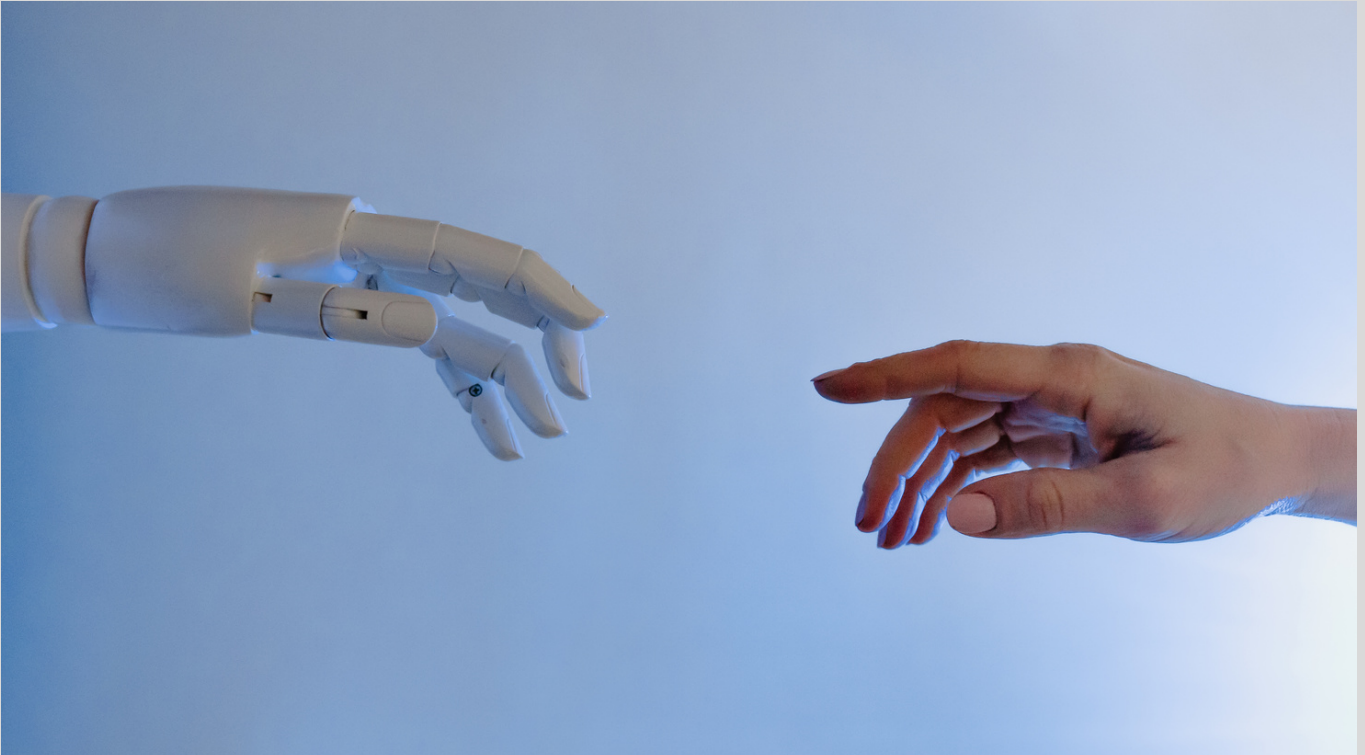
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VISION AND MISSION

**Vision:**

To emerge as a department of eminence in Artificial Intelligence and Machine Learning in serving the Information Technology Industry and the nation by empowering students with a high degree of technical and practical competence.

Mission:

- To strengthen the theoretical and practical aspects of the learning process by strongly encouraging a culture of research, innovation and hands-on learning in Artificial Intelligence and Machine Learning
- To encourage long-term interaction between the department and the IT industry, through the involvement of the IT industry in the design of the curriculum and its hands-on implementation.
- To widen the awareness of students in professional, ethical, social and environmental dimensions by encouraging their participation in co-curricular and extracurricular activities.

WORKSHOPS

Johann Wolfgang Von Goethe, a German poet, once said, "In the end we retain from our studies only that which we practically apply." Learning would have no lasting impact unless it's been applied. Workshops are one of the plethora of ways to imbibe long lasting knowledge which, in all fairness is relevant to the times, and hence facilitating everyone involved with a useful and fun-filled experience when compared to its triter counterparts.

IMPORTANCE OF DATA SCIENCE



The workshop sought to familiarize students with the importance of data science and increase awareness about its revolutionizing presence in every industry. The workshop commenced after an address by Dr N.V Uma Reddy HOD Dept of AIML followed by Mr. Bhargava R, Senior Assistant Professor emphasizing on its importance to help improve their knowledge and act as an invaluable asset to their skillset.

The guest speaker Mr.Pramoda K.V, a senior Data Scientist at Aveksha Technologies started the session with a presentation highlighting the foremost steps in learning data science. This included identifying the appropriate programming language, identifying data science problems and understanding its elaborate implementations. The students were taught the importance of statistics and comparison of problems with various analogies.

At the end of the session, the students were made aware of various platforms and businesses where data science is widely used. This helped them comprehend that data science is one of the most emerging domains of the decade and therefore has become the most sought-after career option.

MACHINE LEARNING



Machine Learning-A Reiterative Boon

A system when broken down to its constituent parts, per say, to its bone, runs with an algorithm at its heart. The domain of Artificial Intelligence and Machine Learning focuses on building a system which can access data and improve on its own in due time. To enable that, the algorithm at its core, must be conducive, strong and efficient. The industry uses Machine Learning or an algorithm of similar caliber to do just that.



This was aptly pointed out by Professor Dinesh J on the 6th of May, 2022 during his workshop on machine learning algorithms. The day kicked off with Dr. N V Uma Reddy welcoming her students with zeal. The workshop was divided into three parts - grasping the theoretical concepts that work behind a machine learning algorithm and gaining insights into the data available, building a machine learning algorithm for said data, evaluating the model built based on evaluation parameters. The session being interactive, hands-on and lively with discussions running amok helped the students delve deeper into the world of Artificial Intelligence and Machine Learning.

NATURAL LANGUAGE PROCESSING



The Auto Correct Fallacy

The world now, is at the cusp of the Fifth Industrial Revolution, and to enhance one's part in it, one should have fully experienced the Fourth Industrial Revolution, to reinvigorate that journey for the students of the Department of AI & ML, Mr. Deepankar, Co-founder- Oliv.AI, on 26th of April 2022, delivered a session on Natural Language Processing (NLP), a branch of AI which combines computational linguistics, and machine learning models or its subsidiaries, especially- deep learning.

The English language, as funny as it may seem, is highly curated with an amalgamation of absurd rules, misnomers, and a mind of its own. Humans take years to polish their language skills only to fall short, each time, to something more elaborate, enticing, and exquisite. To work with a language this convoluted, we will need to work with algorithms just as complex, as aptly mentioned by Mr. Deepankar.



This esoteric session was curtailed towards its niche audience, the students who major in AI & ML, who enjoyed the opportunity to learn about a multitude of algorithms used and were highly interested in future sessions.

TECHNICAL REPORT WRITING



The World of Plagiarism

A technical report is generally a formal report which is designed to convey technical information in a clear and concise manner. The minimal standards expected while writing a technical report are to ensure that the writing is accurate, concise, straightforward, and that the information is organized according to importance and convenience. To enhance the students' skill a program was organized such that the students understand the basics of technical report writing.

Dr. K Deepa, associate professor, Amrita School of Engineering Bengaluru, was the key-note speaker for the same. Dr NV Uma Reddy, HOD department Of Artificial Intelligence and Machine Learning welcomed the students and elucidated the significance of the workshop. Ms. Evangeline, a 2nd year student delivered the welcome speech. There were about one twenty students who attended this seminar.

The guest speaker started off with her presentation on how to choose the title of the project. Adding on how to write the abstract and importance of it, the introduction, how to define the problem statement along with an elaborate explanation on a report's results. She additionally provided some important tips to avoid plagiarism in the report. At the end of the session the students got an opportunity to ask questions to the guest speaker. The speaker interacted with the students and cleared all of their doubts. At the end of the seminar the students understood the basics and the significance of writing a relevant technical report.

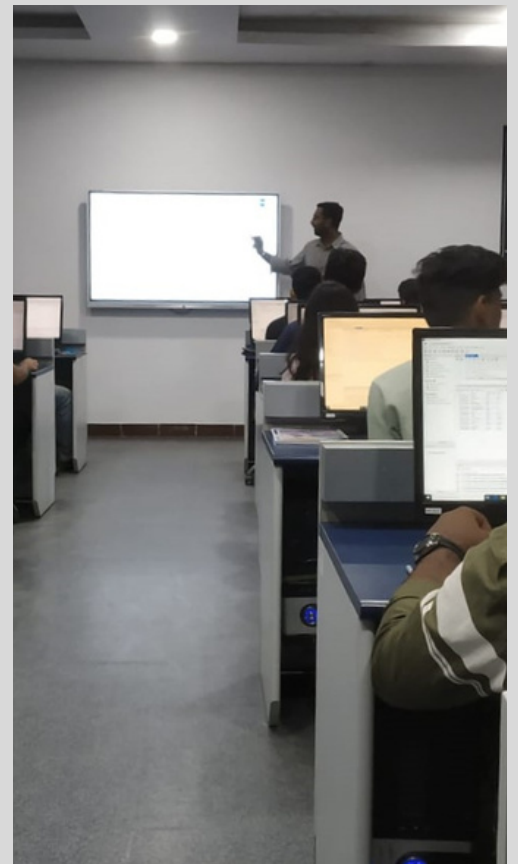
SQL



The Quest For Data

Quoting the enigmatic British detective Sherlock Holmes, "It is a capital mistake to theorize before one has data.", the importance of data and its analysis is evident. Data plays the role of the bedrock of the Artificial Intelligence and Machine Learning domain. For without data, there would be nothing the machine could potentially analyze. To deal with the herculean task of data analysis MySQL presents itself as a force to be reckoned with. To equip us with the necessary skills for this software, the department organized a workshop which was conducted by Mr. Bhargava R, Sr. Assistant Professor.

The HOD, Dr. N. V. Uma Reddy, started the session by welcoming and addressing the students. As part of the workshop, the students were exposed to the industrial importance of MySQL and understood the basics of it. The students were then guided along the various commands that perform operations on the data and with the query writing process. Advanced operations and nested queries were also briefly glossed over. The workshop was concluded with Prof. Bhargava stating that: In the data driven world, knowing how to handle the structured data is paramount.



INDUSTRIAL VISIT

Industrial visit has its own importance in a career of a student who is pursuing an engineering degree and is considered as an integral part of the college curriculum. The department of AI & ML organised an industrial visit for the students to Visvesvaraya Industrial and Technological Museum.

The widely known and esteemed museum is devoted primarily to science and comprises of multiple sections like the digital technology section, space technology, electronics and bio technology. The students walked through the various sections and were made to independently explore all the sections. For additional recreation and to highlight creativity in science there were multiple shows organised for the students like the Taramandal show, science show and the 3D fun show. The Taramandal show is closely associated with astronomy was very informative for all.



The student anecdotes from the visit were very interesting and highlighted on how the visit helped them brush up their basics. This has helped many students come up with creative project ideas in the fields of science, technology and aeronautics by integrating the concepts and applications of artificial intelligence and machine learning.



STUDENT CLUBS

New Horizon College of Engineering has more than 50 student-run clubs, that include technical, cultural awareness groups, extra-curricular activities clubs, performing groups, sports and fitness clubs, and other co-curricular clubs.

Student clubs are developed at the Institute with the goals of assisting students in pursuing their interests and hobbies as well as bringing people together. Students can discover their abilities, such as the ability to multitask, organise, build a team, lead, and have a service-minded attitude. They can expand their skill set by learning new ones. The clubs assist in continuing an old interest. Opportunities for networking are a key advantage. Members of the club form bonds with one another that advance their professional careers. Association with groups among students aids in presenting one's area of interest and striking a balance between work and play.

KILL-A-BYTE BRAINIACS EVENT-1



Round 1: The first round was an emulation of rudimentary model testing and elimination methods. Teams had to correctly answer several technical questions with progressive addition of team members for correct answers; failure to do so resulted in elimination.

Round 2: The second round was an intricate recreation of the convoluted inner workings of a neural network. It was a calculated game of passing questions around strategically to ensure selection.

Round 3: The final round was premised upon individual technical prowess. The qualified participants had to speed surf and circumvent Wikipedia pages to reach a specific page. The first two participants were awarded.

"HOW TO TRAIN YOUR HUMAN"

The technical club of AIML department, Brainiacs conducted the "Kill-A-Byte" event on 22 April 2022. The aim of the event was to engender awareness regarding neural network training.



The various rounds were simulations of algorithms used in machine learning. Akin to optimum model selection in neural networks, the winners were selected from the crucibles of these complex rounds.

MEGA MINDS

BRANIACS EVENT-2



"THE GREAT BOTTLE FLIP MACHINE LEARNING EXPERIMENT"

The technical club of the AIML department, Brainiacs conducted an event- Mega Minds, on 23rd of June 2022, which was an Inter-Department level event consisting of multiple technical and recreational rounds. This event was aimed to develop various AI&ML- related technical skills in students by helping them explore current trends in the professional and industry-level fields. The requirements were basic technical knowledge, coding knowledge, origami and an encyclopedic knowledge of bottle flipping.



Round 1: The first round was a flip and flight round with recreational activities. Participants had to complete several challenges relating to bottle flipping and paper plane aviation. This digression from the technical backdrop would at first glance seem that these activities were leisurely, however the participants' mettle was tested and trained. Bottle flipping mini games essentially multi-purposed as both a distraction and an allegory for K-fold cross validation with elimination. Cross-validation is a statistical method used to estimate the skill of machine learning models, in this instance, the participants.

Round 2: The second round was a treasure hunt with more emphasis on technical knowledge. The top seven teams were selected for this round after filtering. Qualified participants had to find QR codes concealed in numerous places across the campus by solving hints. The first two teams were awarded.

EVOLVE.AI



The vision of the club is to become an epicenter for the culmination of zealous minds, by bringing the expressionable qualities of the college students into the spotlight. This would nurture the creative, and entrepreneurial traits of the students in tandem with their analytical prowess.

The mission of the club is to enable limitless opportunities for student leadership, team building and participation beyond classroom setup and academic programme, making the students ready for the real-life challenges in the industry. Participating in these co-curricular activities would help students transform in a holistic way by getting involved in competitions to find their own niche on the college campus, which would enable them to gauge their strengths and weaknesses.



Designed by The People, of The People, for The People



EVOLVE.AI INAUGURATION



Unleash your mind's creativity

The need for co-curricular activities in the Department of Artificial Intelligence and Machine Learning led to the inauguration of the second club in the Department, EVOLVE.AI.

The inauguration ceremony of the club began with lamp lighting and invocation dance in the presence of esteemed authorities such as the Principal Dr. Manjunatha, Dean academics Dr. Anandi J, HOD Life skills Dr. Soumya Narayanan, HOD AI&ML Dr. N V Uma Reddy, faculty and students.

The event began with a compendious speech by the President-Chris Vinson enunciating the mission, vision, functions and agenda of the club, which was followed by the revelation of club logo and oath taking ceremony by the club members. This was followed by an address by the present dignitaries. A highlight of this event was the unveiling of the first edition of the Department Newsletter, which was revealed by the dignitaries along with the editorial committee.



After the inaugural formalities, the club members organised an activity to engage the students and to show the metier of the club. This quiz was split in 3 rounds, first being the technical round which included structured questions to test the technical acumen of students. The second and third rounded included fun pop culture trivia questions of different categories. The scores were added up after the end of each round and the participant with the highest score was declared the winner.

The event ended on good note owing to the vigour and enthusiasm shown by the students and faculty and prepared the members for a new beginning.

PUBLICATIONS

Learning - in the words of our principal - and many before him, is a never ending process. The faculty here at the department of AI&ML strive to give their best not only while imparting knowledge but also in their individual technical careers by contributing to the advancement of the industry in a worthwhile and notable manner. Their reputed work has been featured in many publications and a few have been highlighted below.

Research publications (Journal)

- *"A Deep Learning Approach to detect the spoiled fruits"*. E-ISSN: 2415-1521, Volume 10, 2022.
- Priyanka Kanupur, Dr. N V Uma Reddy
- *"Energy Efficient Low Latency Routing Design for Target Tracking Applications of Wireless Sensor Network"*. International Journal of Circuits, Systems and Signal Processing. June 2022.
- Dr. N V Uma Reddy

Research publications (Conference)

- *"Price Drop Alert System Using Python Language-Web Scrapping Technology"*. International conference on emerging trends in engineering, management and technology. June 2022.
- Naga Malleshwar Reddy, k. Sasi Kiran Reddy, M. Krishna Vamsi, Dr. N.V. Uma Reddy
- *"Student's Marks Prediction by Using ML Model"*. National conference on "Digital Technologies for Smart Cities" on 17th May 2022 at RV College of Engineering. -Jayashree M Gadwal, Keerthana N, Kodidala Vamshivardhan, Dr N. V. Uma Reddy
- *"Web Scraping to understand industry news and market trends in India"*
- Sooryendhu P, Vignesh Prabhu, C Kavyashree

Research publications (Book)

- *A Square-Slotted Dual-Bandwidth Rectangular-Patterned Antenna for IoT Applications*
- Dr. N.V. Uma Reddy

Patents

- *A Deep Learning Based Framework for Monitoring the Soul Moisture from the Portable Device*
- Dr. N.V. Uma Reddy
- *Design and Development of voice-based writing machine using arduino and benbox software*
- Dr. N.V. Uma Reddy

STUDENT ACHIEVEMENT



Matam Dinesh
Chandra
~Campus Ambassador
for Cisco



Adhithya B N
Om Kumar Patra

~Selected for
Leadership
Development
Program from
Toastmasters District
92



Fizza Mirza

~Secured 4th place in the
technical talk competition-
"Smart Engineering for a
Better World", held at The
Institution of Engineers



EDITORIAL COMMITTEE



Adhithya B N



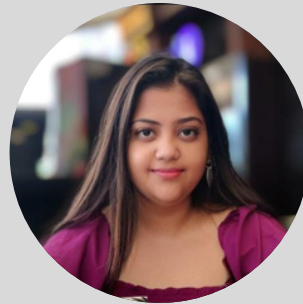
Chris Vinson
Kunnankada



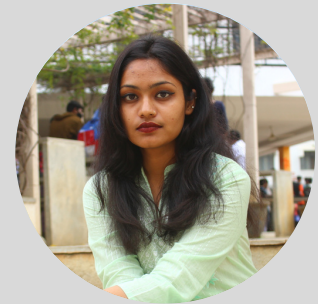
Tanya Singh



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Bhavna B



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