



# CS MAIL

## NEWSLETTER VOLUME 9, ISSUE I, FEB 2021

### Dear Readers,

It is with great pleasure that we bring you **Volume 9, Issue I** of our department newsletter “**CS MAIL**”. The current newsletter highlights the activities of the department, achievements of faculty and students during the past six months. It also features workshop organized and attended, paper publication details and other social activity undertaken from CS Department. Your valuable comments and suggestions are appreciated.

*We wish all the readers an enjoyable reading.*

### VISION OF THE DEPARTMENT

To develop highly talented individuals in Computer Science and Engineering to deal with real world challenges in industry, education, research and society.

### MISSION OF THE DEPARTMENT

- To inculcate professional behavior, Strong ethical values, innovative research capabilities and leadership abilities in the young minds & to provide a teaching environment that emphasizes depth, originality and critical thinking.
- Motivate students to put their thoughts and ideas adoptable by industry or to pursue higher studies leading to research.

### PROGRAM EDUCATIONAL OBJECTIVES (PEO'S)

- Empower students with a strong basis in the mathematical, scientific and engineering fundamentals to solve computational problems and to prepare them for employment, higher learning and R&D.

- Gain technical knowledge, skills and awareness of current technologies of computer science engineering and to develop an ability to design and provide novel engineering solutions for software/hardware problems through entrepreneurial skills.
- Exposure to emerging technologies and work in teams on interdisciplinary projects with effective communication skills and leadership qualities.
- Ability to function ethically and responsibly in a rapidly changing environment by applying innovative ideas in the latest technology, to become effective professionals in Computer Science to bear a life-long career in related areas.

### PROGRAM SPECIFIC OUTCOMES (PSO'S)

- Ability to apply skills in the field of algorithms ,database design,web design,cloud computing and data analytics.
- Apply knowledge in the field of computer networks for building network and internet based applications.

## Message From Principal

ATMECE has emerged as a prominent institute offering quality education. All round continuous changes in infrastructure and academics standard have helped us to build a brand name. It gives me immense pleasure to introduce the **Volume 9, Issue 1 OF THE HALF YEARLY NEWSLETTER “CS MAIL”** of Computer Science Department. I am pleased to know that the newsletter will showcase the activities and credentials of CS&E department. I hope this will become a platform for students and staff to exhibit their talents in science and technology. On behalf of management, I appreciate the newsletter committee for their efforts in bringing out this edition.



**I wish the editorial all success!!!**

**Regards  
Dr L Basavaraj  
Principal,  
ATMECE**

**DON'T WAIT FOR OPPORTUNITY CREATE IT**

## Message From Chief Editor



**Dr Puttegowda D  
HoD, CS&E**

Department of Computer Science & Engineering commits to work towards developing dedicated professional with a rich blend of competent, technical, managerial and social skills to contribute nation building. I am happy to inform that our department newsletter **“CS MAIL”** is being released in the month of Feb 2021. The newsletter encourage departments technical activities and also motivate students to bring out their innovative ideas , hidden talents and also provide a common platform to share their knowledge, in turn gain technical knowledge.

**I wish all the readers an enjoyable reading!!!**

## TOPPERS

3 <sup>rd</sup> sem		
USN	STUDENT NAME	SGPA
4AD19CS007	ANIRUDH NITIN BAKARE	9.29
4AD19CS105	YOUNUS KHAN	9.08
4AD19CS003	AMOGH P	8.83

5 <sup>th</sup> sem		
USN	STUDENT NAME	SGPA
4AD18CS053	PAVITHRA K	8.64
4AD18CS061	RAKSHITHA R	8.56
4AD18CS013	BIBI JAVERIYA	8.56

7 <sup>th</sup> sem		
USN	STUDENT NAME	SGPA
4AD17CS004	AHALYA P	8.88
4AD17CS057	NIKITHA S RAO	8.79
4AD17CS055	NANDINI M M	8.75

## EDITORIAL TEAM

**Chairman**  
**Dr L Basavaraj**  
Prinicpal, ATMECE

**Chief Editor**  
**Dr Puttegowda D**  
HOD, CS&E

**Editor**  
**Ms. Lavanya N**  
Assistant Professor,  
CS& E.

**Student Cordinators**  
**Varshini R**  
**Prajwal Raj G**

**A DREAM BECOMES A GOAL WHEN ACTION IS TAKEN TOWARD ITS ACHIEVEMENT**

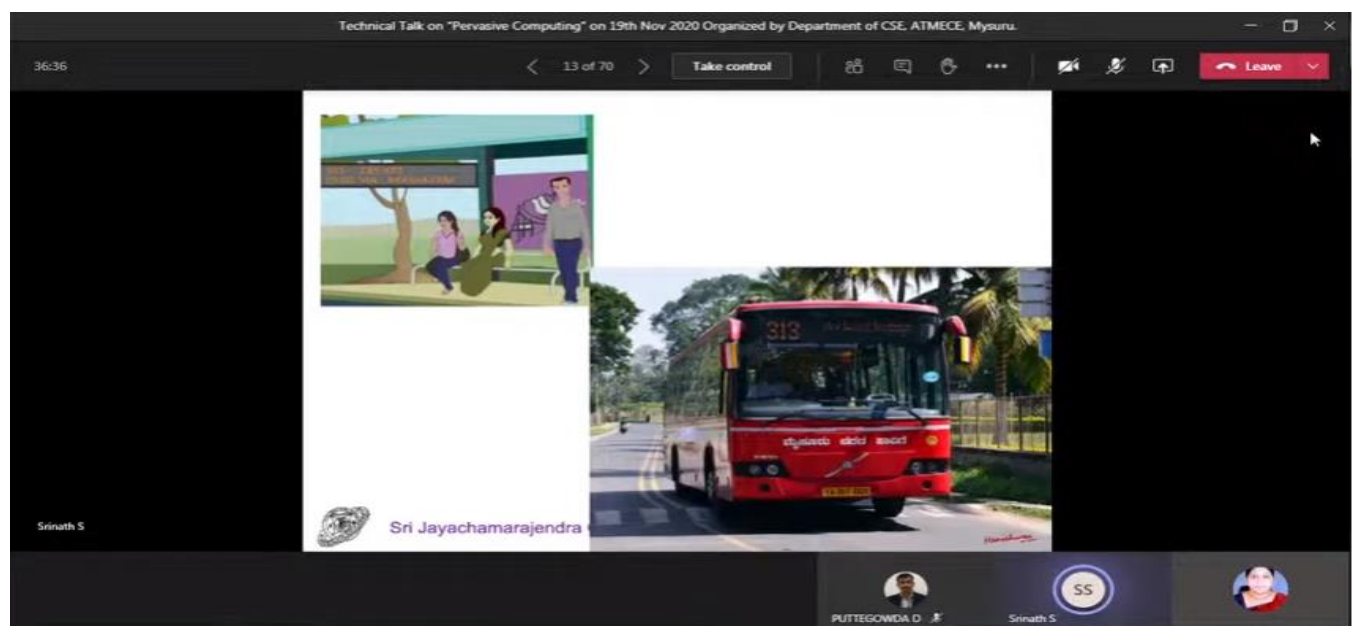
## DEPARTMENT ACTIVITIES

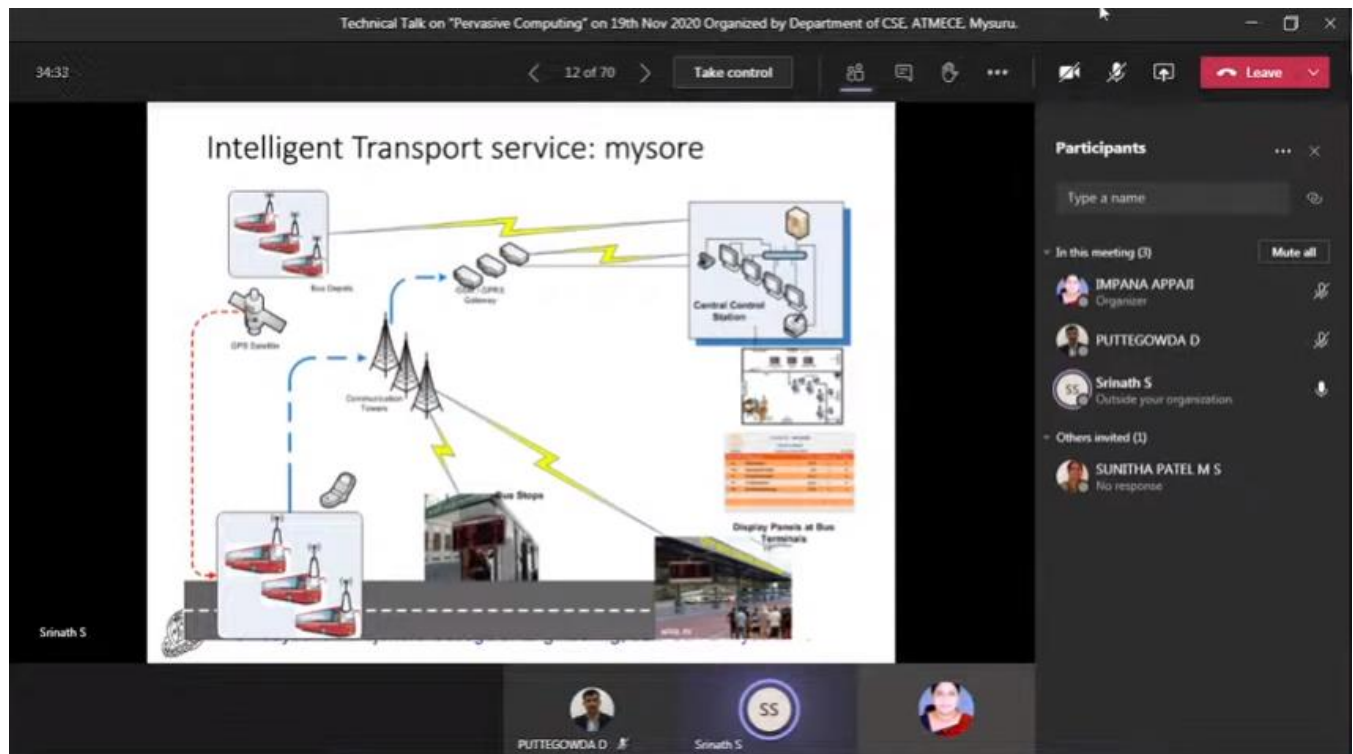
### “Technical talk on Pervasive Computing”

Department of Computer Science & Engineering had organized a Technical Talk on “**Pervasive Computing**” on **19<sup>th</sup> NOV 2020** virtually for faculties and students.

**Resource Person: Dr. Srinath S**

**Topic Delivered: Pervasive Computing.**





## “Technical talk on NLP”

Department of Computer Science & Engineering had organized a Technical Talk on **“Natural Language Processing”** on 30<sup>th</sup> Sep 2020 virtually for faculties and students.

### RESOURCE PERSON



**Mr. Amom Nandaraj Meetei**

Resource person at Linguistic Data Consortium for Indian Languages (LDC-IL) at Central Institute of Indian Languages (CIIL), Mysore.



**Dr. Prathibha R J**

Assistant Professor in the Department of Information Science and Engineering, JSS Science and Technology University (formerly SJEC), Mysuru.

**Resource Person: Dr. Prathibha R J - Assistant Professor, Dept., of ISE SJCE, Mysuru.**

**Topic Delivered: Parts of Speech (PoS) Tagger: A Primitive Module in Natural Language Processing (NLP) Applications**

**Dr. Prathibha R J**, Gave an brief overview on natural language processing followed by development of some primitive modules that are prerequisite for the design of Parts of Speech (PoS) tagger for English language. Chosen English as the natural language for which parts of speech tagger is developed, linguistic background of English language was also explained with examples. For each module, result analysis also discussed with statistics and performance metrics. At the end, applications of PoS tagger and also natural language processing were discussed.

**Resource Person: Mr. Amom Nandaraj Meetei- Resource person at (LDC-IL) at CIIL, Mysuru.**

**Topic Delivered: “Chunking for Indian Languages”**

**Mr. Amom Nandaraj Meetei**, Gave an brief overview on the topic entitled “*Chunking for Indian Languages*”. He started his lecture primarily placing a focus on the definition of chunking and its implied perspectives in NLP. The process of annotating tagged tokens with structures in a non-hierarchical and non-recursive way is Chunking. Logically, there must have only one HEAD surrounded by modifiers within a chunk. Identifying the head in chunk is a challenging task. There may be adjectives in series in a noun chunk and based on the logical slogan of ‘one head per chunk’, one has to decide the chunk in question. Linguistically, there are recursive nested phrases where a number of head words can appear one after one. For this reason, much research in NLP has focused on intermediate tasks that make sense of some of the structure inherent in language without requiring complete tagging understanding. One such task is chunking or partial parsing.

### **“Webinar on Industrial Application of NLP: A Case Study of Text Classification”**

Department of Computer Science & Engineering had organized a webinar on “**Industrial Application of NLP:A Case Study of Text Classification**” on 28<sup>th</sup> November 2020 virtually for faculties and students.

**Resource person and topic delivered are listed below.**



#### **Flow of Presentation**

Introduction to Text Classification and NLP

Applications

Challenges

Case - Study Text Classification using ML

Introduction

Theoretical Study

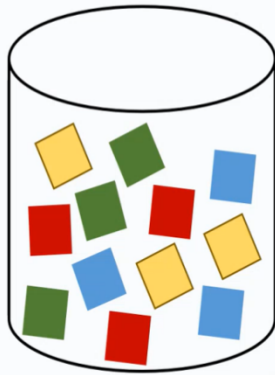
Practical Demo

**Dr BharathBhushan S N PhD**

**Data Scientist, StarViso Pune**

Dr Bharath Bhushan , gave detailed description on Text classification and NLP.Also explained the applications ,challenges of NLP, text mining and a case study of text classification using ML. There was a practical demo IN Jupyter tool using datasets using algorithms. NLP is a branch of Artificial intelligence and Machine learning. Text classification is done using rule based approaches which uses machine learning and deep learning techniques. Initially Text mining or classification transfers the unstructured data into structured data and analyse the data to extract the required information. The resource person took example of Alexa and explained how google assistant works using human speech which also deals with NLP.

## What is text classification...?



Rule Based

Machine Learning

Deep Learning

8

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Home Page - Select or create a... x ATME - Jupyter Notebook x Meeting | Microsoft Teams x | +
localhost:8888/notebooks/ATME.ipynb
jupyter ATME Last Checkpoint: an hour ago (autosaved)
File Edit View Insert Cell Kernel Widgets Help Trusted Python 3
+ - < > Run C Code
Train Test Split
In [ ]: Test_X, Train_Y, Test_Y = model_selection.train_test_split(dataset['datafinal'], dataset['label'], test_size=0.3, random_state=20)
In [ ]: from sklearn.feature_extraction.text import CountVectorizer
corpus=["the house had a tiny little mouse",
        "the cat saw the mouse",
        "the mouse ran away from the house",
        "the cat finally ate the mouse",
        "the end of the mouse story"
        ]
#vectorizer = CountVectorizer()
vectorizer = CountVectorizer(stop_words='english')
X = vectorizer.fit_transform(corpus)
print(vectorizer.get_feature_names())
print('Document-term matrix')
print(X.toarray())
In [ ]: from sklearn.feature_extraction.text import TfidfVectorizer
corpus=["the house had a tiny little mouse",
        "the cat saw the mouse",
        "the mouse ran away from the house",
        "the cat finally ate the mouse",
        "the end of the mouse story"
        ]
#vectorizer = TfidfVectorizer()
vectorizer = TfidfVectorizer(stop_words='english')
X = vectorizer.fit_transform(corpus)
print(vectorizer.get_feature_names())
print('Document-term matrix')
print(X.toarray())
TF-IDF
```

## “WEBINAR ON ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING”

One day webinar on Artificial Intelligence and Machine Learning via Online on 14th Dec 2020 at ATMECE, Mysuru. It was conducted in the Department of Computer Science and Engineering at ATME College of Engineering, Mysuru. A Webinar was conducted for final year students on 14th Dec 2020 regarding Artificial intelligence and Machine Learning By Verma, Geeks Lab. In Webinar resource person focused on how AI & ML will revolutionize the world in future. It was very informative and educating experience.

The following topics presented in webinar.

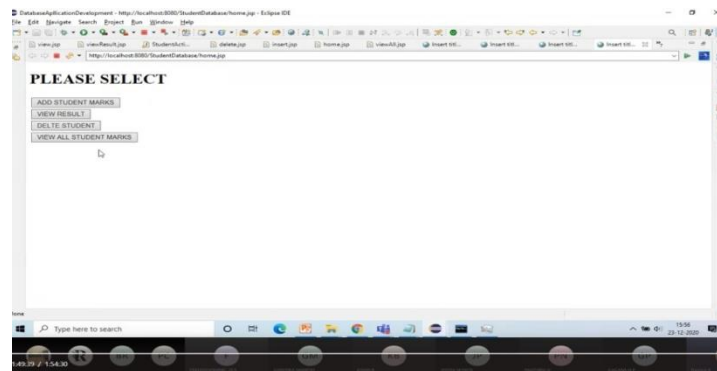
- Why AI and ML
- Basics of AI and ML
- Importance of Moths in AI and ML
- AI ML Applications
- Job opportunities in the field of AI & ML

## “Workshop on Database Application Development”

Department of Computer Science & Engineering had organized a webinar on “**Database Application Development**” on 23<sup>th</sup> and 24<sup>th</sup> December 2020 for students.

Day 1: Explained JDBC process. Java Database Connectivity (JDBC) is an application programming interface (API) for the programming language Java, which defines how a client may access a database. It is a Java-based data access technology used for Java database connectivity and also it is a part of the Java Standard Edition platform, from Oracle Corporation.

Day 2: The Day two session started with PHP scripting language .*PHP* is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites and focused on PHP syntax and semantics are the format and the related meanings of the text and symbols in the PHP programming language. They form a set of rules that define how a PHP program can be written and interpreted. The PHP syntax and semantics are the format and the related meanings of the text and symbols in the PHP programming language.



## “SEMINAR ON CAREER GUIDANCE”

A seminar was conducted by the Department of Computer Science and Engineering, ATMECE, Mysore for final year students regarding career guidance and employment opportunities on 20th Jan 2021. The Resource person Mr. Rajesh from NICT Pvt Ltd, Bangalore briefed that Career guidance help students to understand their strengths and weaknesses and then match them with their skills and interest so that they get the best suitable career choice.





## TECHNICAL ARTICLES

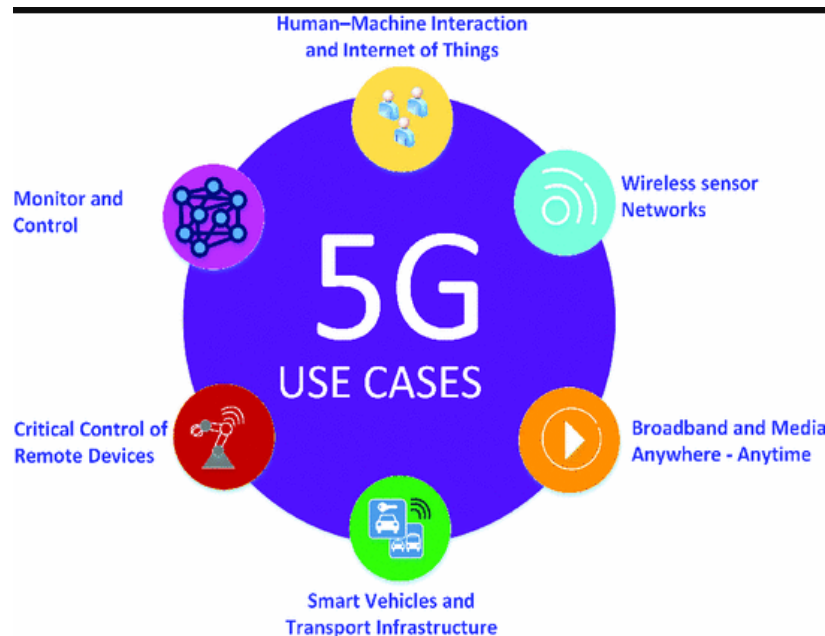
### “TOP 5 TRENDING TECHNOLOGIES TO MASTER IN 2021”

Technology is constantly updating at such a rapid pace that it seems it is might be faster than light! A technology or a programming language that is making the rounds this week may be obsolete by the next few days! As more and more funds are invested in research and development, computer scientists and professionals are constantly tweaking and improving existing technologies to get the most out of them. I have listed the top 5 trending technologies, which are expected to acquire a huge market in 2021.

1. 5G Technology
2. Internet of Behaviours(IoB)
3. Intelligent Process Automation(IPA)
4. Big Data Analytics
5. Human Augmentation

#### 1) 5G TECHNOLOGY

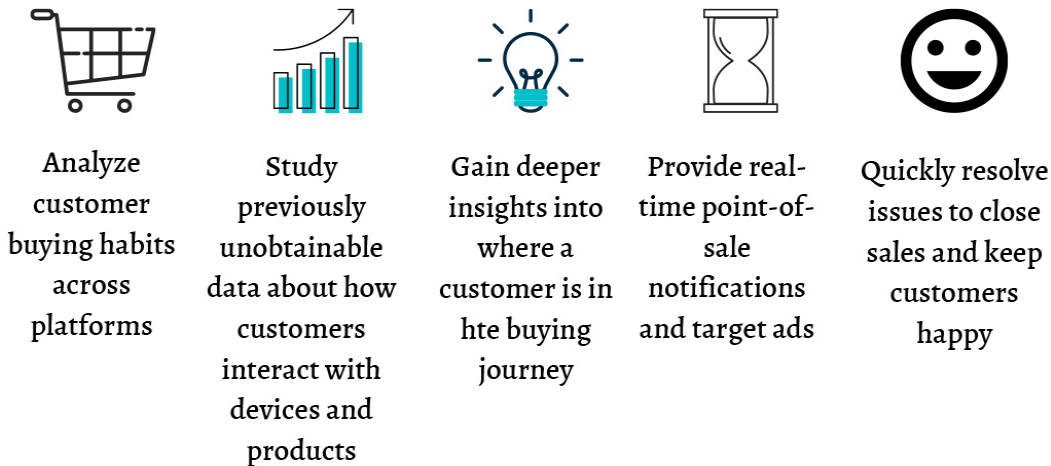
- 5G Technology is the next generation of cellular networks and services. It is expected to provide at least 20GBPS downlink and 10GBPS uplink, which will make the 5G network to be at least 40 times faster than current 4G LTE. This will open doors for new services, network operations and customer experience for telecom operators. Currently, the market is led by Switzerland, closely followed by South Korea and the US.
- Companies investing in 5G: Samsung, Huawei, Intel, Deloitte, Nokia, Ericsson, Qualcomm



## 2) INTERNET OF BEHAVIOUR(IOB)

- The collection and use of data to drive behaviours is called the Internet of Behaviors (IoB). An example of it is industrial sites having employed computer vision to determine if employees were complying with mask protocol and then collecting this behavioural data to be analyzed by the organizations to influence people to follow government protocols at work.
- IoB can gather, combine and process data from many sources including:
  - Citizen data processed by public-sector
  - Commercial customer data
  - Government agencies
  - Social media
  - Public domain
  - Location tracking.
- Companies investing in IoB: AWS, Cisco, SAP, Microsoft, HP, IBM, Dell, Cloudera.

## Benefits of IoB



## 3) INTELLIGENT PROCESS AUTOMATION

- Robotic Process Automation is basically the idea that ‘Anything that can be automated, should be automated’. This year, we’ve discovered something even more fascinating – Intelligent Process Automation. IPA, in a nutshell, allows bots to benefit from the abilities of Artificial Intelligence, Big Data, Machine Learning, meaning they can learn and improve over time. This helps these intelligent bots evolve from the ‘If-this-then-that’ rule. As the adoption of Automation is expected to grow, investment in IPA is estimated to reach \$232B by 2025.
- Companies investing in IPA: KPMG, AWS, Microsoft.

#### 4) BIG DATA ANALYTICS

- Big Data Analytics has been there in the market for quite some time now. More and more businesses are adopting it to go beyond the traditional ways of data storage and processing. New trends such as X-Analytics are being used to find solutions to challenges, including climate change, disease prevention and wildlife protection.
- Big Data also gives us interesting trends like Decision Intelligence which provides a framework to help data engineers to design, model, execute and monitor decision models and processes in the context of business outcomes and behaviour. In fact, by 2023, more than 33% of large organizations will have analysts practising decision intelligence.
- Companies investing in Big Data Analytics: Amazon, Netflix, Starbucks, Spotify, Google, Adobe



#### 5) HUMAN AUGMENTATION

- Humans have continually experimented with technology to enhance life as they know it. This curiosity has now entered another territory – Human Augmentation which basically means taking the help of technologies like Artificial Intelligence and Internet of Things, to not only enhance our daily lives but also to take human intelligence to the next level.
- Currently, the studies have been racing towards helping people with disabilities with bionics and prosthetic augmentation and curing sickness by experimenting with genes. But the promise is to end the existing physical disabilities or prevent injuries from happening at all.
- It can also provide opportunities for other creative functions. For example, companies like Neuralink aim to build an incredibly powerful brain-machine interface, with the power to process magnanimous amounts of data.
- Companies investing in Human Augmentation: Neuralink, Google, Samsung, Ekso.

**THINK PEACE AND LIVE GREEN...**



**“MAKE EVERY DROP OF WATER COUNT”**

Dear Readers,

Your advice or suggestions will be much appreciated and are most welcome!!!  
Please mail your articles to [csdept@atme.in](mailto:csdept@atme.in)

**BE WILLING TO BE A BEGINNER EVERY SINGLE MORNING**