ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY

FROM HOD'S DESK

Dr. Ahmed Sajjad Khan, HOD

I am very happy that our Electronics & Telecommunication department is releasing departmental News Letter 'BITS AND BYTES' as a forerunner of department activities. It is a technical platform to bring out the hidden talents of students and faculty. The major strength of the department is a team of well qualified and dedicated faculties who are continuously supporting the students for their academic excellence.

We have arranged several webinars and workshops for our 2nd, 3rd and 4th year students in this academic year 2020-21. Our post graduate program is also going on successfully. We have started an exclusive research lab for the PG students. The department will be applying for the NBA accreditation. I hope the NBA committee will be visiting our department in the session 2021-22. So let us work together for the achievement of this goal. I take this opportunity to congratulate our staff editor Mr. Syed Akbar Ali for his great effort to make this news letter as a reality. Also I invite the readers of 'BITS AND BYTES' for their contribution and suggestions for the forthcoming issues.

CONTENTS

Vision

To become excellent in Electronics & Telecommunication Engineering with moral & social ethics and to be globally competent.

Mission

■ To create conducive academic culture for learning and identifying career goals in th field of Electronics & Telecommunication Engineering.

■ To impart research oriented technical education in Electronics & Telecommunication Engineering.

■ To impart necessary skills and promote professional practice to enhance placement and entrepreneurship in Electronics and Telecommunication contributing to the socio-economic growth.

■ To inculcate core values and ethics.

Message from EDITOR

I am very pleased to present the newsletter of our department .An opportunity for the staff and students to showcase their talent related to events, activities and academic achievements from the department. It showcases the contributions from students as well as faculties. I hope everyone will find this newsletter exciting, interesting as well as encourage many more students to use it as a plateform to express their creativity.

I am thankful to our principal Prof. Dr. S. M. Ali and head of department Prof. Dr. A. S. Khan for believing in me and giving me this opportunity.

Syed Akbar Ali
Staff Editor

Staff ACHIEVEMENTS

Dr. Ahmed Sajjad Khan

1. Australian Government

Patent on: AN ARTIFICIAL INTELLIGENCE BASED SYSTEM TO IDENTIFY THE MEDICAL CONDITION PRIOR TO DOCTOR CONSULTATION

Status: Patent Granted on 13/01/2021, Patent number: 2020103509,Term of Patent: Eight years from 18 November 2020

2. Indian Government

TITLE: "DETECTION OF THE FAKE DRUGS USING BLOCK CHAIN TECHNOLOGY"

Applicant Number: 202121048976, Status: Filed on 26/10/2021

Mr. M.Z. Khan

1. Indian Government

Patent on: AI FOR EFFICIENT ASSESSMENT AND PREDICTION OF HUMANPERFORMANCE IN COLLABORATIVE LEARNING ENVIRONMENT

Date of Filing: 16/08/2021, Status: Published on 27/08/2021, Patent Application Number: 202141037142

2. Indian Government

TITLE: "DETECTION OF THE FAKE DRUGSUSING BLOCK CHAIN TECHNOLOGY"

Applicant Number: 202121048976, Status: Filed on 26/10/2021

UNIVERSITY
Rank Holders

UR : 1
Aftab Amin Sheikh
Sem. VII
SGPA : 9.04
13th University Rank

UR : 2
Shifa Sheikh
Sem. VII
SGPA : 8396
15th University Rank

UR : 1
Ameena Qureshi
Sem. V
SGPA : 9.48
8th University Rank

UR : 2
Ibtihaj Sheikh
Sem. V
SGPA : 9.41
10th University Rank

UR : 2
Tanzila Qadar
Sem. V
SGPA : 9.41
10th University Rank

Placements

Company name	Name of student	Salary package(L/A)
Talentio	Mohammad Hadi Ali Qureshi	3
Talentio	Saif Hasan Rain	3
Perficient	Saif Hasan Rain	3.16
Fendahl	Mohammad Hadi Ali Qureshi	3
Dhoot Transmission	Mohed Haidery	1.2
Dhoot Transmission	Siddesh Lakkewar	1.2
Dhoot Transmission	Yogini G Sonawane	1.2

Students **Achievements**

Team "Conceptors" adjudged "Best Performer" and awarded the first prize in the All India Level Smart India Hackathon (SIH-2022) competition (Smart Vehicle Category) organized by **All India Council for Technical Education** (AICTE) and **Ministry of Technical Education** (MoE) at **Birla Institute of Technology (BITs), Rachi, Jharkhand. The team was awarded by cash prize of Rs. 1 Lakh.**

Departmental **Events**

Fun Event "Bubble Battle" organized by Xtream Forum

"Robo Race" organized by Xtream Forum

Seminar on "Robotic Designe" organized by Xtream Forum

Patents Teacher Meet

Seminar on Fluency in English

Workshop on Breadboard Designing

Workshop on Matlab for Beginners

Workshop on Matlab for Biginners conducted

Xtream Forum Installation

Workshop on Research Methodology M.Tech

Biodegradable Electronics
Sustainable Technology that Minimizes Electronic Waste

Biodegradable electronics represent a groundbreaking paradigm shift in the field of electronics, as researchers and engineers strive to create environmentally friendly electronic devices that can naturally decompose at the end of their lifecycle, reducing the burden of electronic waste. This emerging field combines principles from materials science, engineering, and environmental sustainability to develop electronics that are not only functional and efficient but also biodegradable.

The primary motivation behind biodegradable electronics is the escalating issue of electronic waste (e-waste), which poses significant environmental challenges. Traditional electronics, composed of non-biodegradable materials such as plastics, metals, and toxic components, contribute to the ever-growing e-waste problem. Biodegradable electronics aim to mitigate this issue by utilizing materials that can break down into harmless substances under natural conditions.

One key aspect of biodegradable electronics is the selection of materials. Researchers focus on using biocompatible and biodegradable materials for various components of electronic devices, such as substrates, conductors, semiconductors, and insulators. These materials may include biopolymers, cellulose-based compounds, and other organic substances derived from renewable sources. The challenge lies in striking a balance between the material's electronic properties and its biodegradability.

Biodegradable electronic devices span a wide range of applications, from simple sensors to more complex devices. Researchers have successfully developed biodegradable sensors for environmental monitoring, medical implants, and agricultural applications. These sensors can provide valuable data during their functional life and then naturally decompose, eliminating the need for extensive waste management processes.

Medical implants and wearable devices represent another promising frontier for biodegradable electronics. Implants made from biodegradable materials can be designed to perform specific functions within the body, such as monitoring vital signs or delivering drugs, and subsequently dissolve harmlessly, eliminating the need for surgical removal. Similarly, biodegradable wearables can be used for short-term applications, reducing electronic waste associated with consumer electronics.

The manufacturing processes for biodegradable electronics also play a crucial role in their environmental impact. Sustainable fabrication methods that minimize energy consumption and utilize eco-friendly techniques are essential. Researchers are exploring techniques such as 3D printing and green chemistry to develop biodegradable electronic devices in a more environmentally conscious manner.

While the field of biodegradable electronics holds great promise, several challenges remain. Achieving the desired level of performance and stability comparable to traditional electronics is a persistent hurdle. Researchers are actively working to enhance the efficiency and durability of biodegradable materials to ensure that these electronics meet the standards required for various applications.

Additionally, the integration of biodegradable electronics into existing waste management systems is a critical consideration. Developing standardized methods for the disposal and decomposition of these devices will be crucial to ensure that the environmental benefits are fully realized.

In conclusion, biodegradable electronics represent a transformative approach to address the environmental impact of electronic waste. By harnessing sustainable materials and eco-friendly manufacturing processes, researchers aim to create electronic devices that not only function effectively during their operational life but also contribute to a more sustainable and ecologically conscious future. While challenges persist, the ongoing advancements in this field hold the potential to revolutionize the electronics industry and significantly reduce its environmental footprint.

by : **Aafreen Danish**

Social Media Algorithm

Social media algorithms and their influence on users' experiences have become pivotal in shaping online interactions, content dissemination, and even societal perspectives. These algorithms, employed by platforms like Facebook, Instagram, Twitter, and others, are designed to curate and prioritize content based on user preferences, engagement history, and various other factors. Understanding their impact is crucial as they play a significant role in shaping the information users consume and the connections they make.

Algorithmic Content Curation:

Social media algorithms use complex algorithms to curate users' content feeds. Instead of displaying posts in chronological order, platforms prioritize content based on individual preferences, past interactions, and predictive analytics. This approach aims to enhance user engagement by presenting content that aligns with users' interests and behaviors.

Personalization and Filter Bubbles:

While algorithmic personalization can enhance user experience, it also contributes to the creation of filter bubbles. Users are often exposed to content and opinions that align with their existing beliefs, limiting exposure to diverse perspectives. This phenomenon can reinforce existing biases and contribute to the polarization of online discourse.

Engagement Metrics and Virality:

Social media algorithms heavily rely on user engagement metrics to determine the popularity of content. Posts that receive more likes, comments, and shares are often given higher visibility, contributing to the viral spread of certain content. This emphasis on engagement can incentivize the creation of sensational or polarizing content to maximize visibility.

Echo Chambers and Information Silos:

Algorithmic content curation can inadvertently lead to the formation of echo chambers, where users are primarily exposed to information that reinforces their existing views. This can contribute to the polarization of online communities and hinder the exchange of diverse perspectives. Users may find themselves in information silos, unaware of alternative viewpoints.

Influence on User Behavior:

Social media algorithms influence user behavior by shaping the type of content users encounter. The constant exposure to specific types of content can influence opinions, preferences, and even purchasing decisions. This targeted content delivery plays a crucial role in digital marketing and advertising strategies.

Challenges of Algorithmic Bias:

One significant challenge associated with social media algorithms is the potential for bias. Algorithms, when trained on biased datasets, may perpetuate and even exacerbate existing societal biases. This can manifest in the form of discriminatory content recommendations or biased targeting in advertising, raising ethical concerns.

Combatting Misinformation:

Social media platforms are increasingly investing in algorithms to combat misinformation. These algorithms aim to identify and reduce the visibility of false or misleading content. However, striking a balance between addressing misinformation and avoiding censorship challenges platforms in maintaining open communication spaces.

User Empowerment and Algorithm Transparency:

Recognizing concerns about algorithmic influence, there is a growing call for increased transparency and user empowerment. Some platforms are providing users with more control over their content feeds, allowing them to customize preferences and providing explanations for why certain content is shown.

Regulatory Scrutiny:

The impact of social media algorithms on public discourse has attracted regulatory scrutiny. Policymakers are exploring ways to regulate and hold platforms accountable for algorithmic transparency, user privacy, and the potential societal impacts of algorithmic content curation.

In conclusion, social media algorithms wield significant influence over the content users consume, the connections they make, and the way information is disseminated online. While these algorithms aim to enhance user experience, there are concerns about their unintended consequences, including filter bubbles, algorithmic bias, and the potential for misinformation. Balancing the need for algorithmic personalization with ethical considerations and user empowerment remains a complex challenge in the evolving landscape of online communication.

By : **Pranali Shende**

Teaching Staff Members with Principal & Head of Department

Non-Teaching Staff Members with Principal & Head of Department

ACET

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Department of Electronics & Telecommunication