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It gives me immense pleasure to note that another edition of NEXUS is ready for launch. Truly, irrespective of class or cadre or calibre, it is the dynamism and pervasiveness of the vision that can lead to sustainable excellence. The big theme today is to focus on creativity and innovation alongside academics. Entrepreneurial wealth creation has been explosive on account of the massive impact made by technology start-ups. It is research and development that fosters innovation and out of the box thinking, be it in design or in implementation. Interact with your predecessors pursuing their passions as entrepreneurs or as employees and they would vouch for the fact that career progression or wealth creation happens only when the vision extends beyond the periphery. Apply your mind in everything you do, whether it is a small laboratory project or a longer semester project. Understand the “Why”, investigate the “Why not” and think through the “How else” and you would already have become an Inventor or Pioneer.

“A basic truth that the history of the creation of the transistor reveals is that the foundations of transistor electronics were created by making errors and following hunches that failed to give what was expected.” -

William Bradford Shockley

Prof. Dr. Anto Sahaya Dhas
HEAD OF DEPARTMENT
Electronics And Communication Engineering
Vimal Jyothi Engineering College, Chemperi



VISION

To be a pacesetter in the field of Electronics and Communication Engineering.

MISSION

To provide quality education for the students in the field of Electronics & Communication Engineering. To educate student about professional and ethical responsibilities and train them to build life skills for their career development.

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Alex M Sunny
CTO & Co founder
Astrek Innovations Pvt Ltd

Since childhood, I was a curious soul. My tutors and mentors at college were the ones who gave wings to my thoughts. They supported me in each step of my learning journey. But when I was in my third year, everything changed—my friend Robin's grandfather met with an accident that altered the course of my life.

I was in college, and I was curious about technology and how it works. I had a few friends who stayed by me through thick and thin. The idea of doing something innovative started after I joined college. After the accident, Robin's grandfather was crippled and could not walk. Even after undergoing surgery, he still could not walk. The idea of using rehabilitation solutions to help him walk was difficult due to their unavailability. He needed help from the family to do even the most basic things in life. As the cost of rehabilitation solutions was so high, I wanted to create something affordable for common people. I discussed this with my friends, who showed great interest. They supported me, and that was the day I thought of establishing a startup.

I, along with my team, have founded a startup that focuses on using assistive technology to aid individuals who are differently abled. We are currently in the research and development stage of inventing a lower limb exo-suit meant for paraplegic and wheelchair-bound patients, enabling them to walk on their own. We strive to create a

new world together. Robin's grandfather passed away after I started my work, but his memory gave us the determination to move forward. My team and I began developing assistive devices for daily living for specially-abled schools. Step by step, we moved forward and established Astrek Innovations. The company's vision is to create a portfolio of advanced technology-enabled devices in the assistive technologies sector, bridging the gap between the common man and quality healthcare.

Through its product, Astrek Innovations aims to aid patients with walking disabilities in their therapies and enable them to perform simple utilitarian tasks. The company is working to make the product available at lower costs so that it becomes affordable for the economically backward class. I believe the world's essential driver of advancement is technological development. However, it's not enough for innovations to be invented, they must be scaled and integrated into the societal structure. The best approach to spread development throughout society is through new innovations. I aim to change the world by helping people improve their lives. I trust this could dramatically accelerate the pace of advancement and propel the world to a new level of transformative improvement.

Our startup's success is due to the dedicated team behind it. Robin Kanattu Thomas, our CEO (EEE 14-18), provides the vision for the company. I, Alex M Sunny, serve as the CTO, leading development (ECE 14-18). Jithin Vidya Ajith, our COO (EEE 14-18), handles the business end and plays the devil's advocate when needed to anticipate risks. Vishnu Sankar (ECE 14-18) is our CMO and handles marketing.

We came together as a team and started working towards establishing the startup. We volunteered for several programs under the IEEE organization in 2014. The event was a huge success, marking our beginning as a team. Our first product idea in college was a home automation system for energy conservation. Then we developed a design for the wireless charging of implantable medical devices. Personal experiences with disability led us to the idea of an external device, an exoskeleton, for walking disabilities. We have also completed many projects and attended numerous workshops at NITs and IITs. As alumni, we have conducted workshops at our college and continuously support our juniors through the course of time.

I believe in science and in defying luck and fortune with the talent to make things happen that the Almighty has showered upon us. When people gained language, the evolutionary baton was passed to us. This made transformative advancement dependent on humanity's ability to discover, reproduce, and spread the patterns that lead to progress. Sometimes, living doesn't always depend on chance; I believe living depends on the good we can do for others. With all the will and power at hand, I aim to do something for the betterment of society.

We still believe that together we can make a difference, and we are never going to stop dreaming. We dream of achieving more



Exploring the Impact of 5G Networks

In recent years, the telecommunications industry has been buzzing with the promise of 5G technology. As the fifth generation of mobile networks, 5G represents a significant leap forward from its predecessors, offering unprecedented speed, reduced latency, and enhanced connectivity. This article delves into the key features of 5G, its potential applications, and the transformative impact it is expected to have on various industries and daily life.

Key Features of 5G

- 1. Enhanced Speed:** 5G networks are designed to deliver data rates up to 100 times faster than 4G LTE. This means that users can download movies, stream high-definition videos, and browse the internet at lightning-fast speeds. The increased bandwidth also allows for more devices to connect simultaneously without compromising performance.
- 2. Reduced Latency:** Latency, or the delay before a transfer of data begins following an instruction, is significantly lower in 5G networks. With latency reduced to as low as one millisecond, real-time applications such as online gaming, video conferencing, and autonomous driving can operate more smoothly and responsively.
- 3. Greater Connectivity:** 5G networks can support a massive number of connected devices, making it ideal for the Internet of Things (IoT). This enhanced connectivity will enable smart cities, where everything from traffic lights to home appliances are interconnected and managed through the network.

Transformative Applications of 5G

- 1. Healthcare:** The healthcare industry stands to benefit immensely from 5G technology. Telemedicine, remote surgeries, and real-time monitoring of patients' vital signs are just a few examples of how 5G can revolutionize healthcare delivery. The low latency and high reliability of 5G networks ensure that medical data is transmitted quickly and accurately, facilitating better patient outcomes.
- 2. Autonomous Vehicles:** 5G is a critical enabler of autonomous vehicles, providing the necessary infrastructure for vehicles to communicate with each other and with traffic management systems in real-time. This level of connectivity is essential for the safe and efficient operation of self-driving cars, potentially reducing traffic accidents and improving traffic flow.
- 3.**

From intelligent transportation systems to energy-efficient buildings and automated waste management, 5G networks will support the vast number of sensors and devices required to create a seamless and efficient urban environment.

4. Industrial Automation: Manufacturing and industrial sectors are set to undergo significant changes with the advent of 5G. The technology enables advanced robotics, remote control of machinery, and predictive maintenance, leading to increased productivity and reduced downtime. 5G's reliability and low latency ensure that critical operations are performed without interruption.

Challenges and Considerations

Another consideration is the regulatory environment. Governments and regulatory bodies need to establish guidelines and standards to ensure the safe and efficient deployment of 5G technology. Collaboration between telecom operators, technology companies, and policymakers will be crucial in overcoming these hurdles.

The advent of 5G networks marks a new era in connectivity, with the potential to transform industries and enhance daily life in ways previously unimaginable. As the technology continues to evolve and mature, we can expect to see even more innovative applications and solutions that leverage the power of 5G. While challenges remain, the benefits of 5G are poised to outweigh the obstacles, paving the way for a more connected and efficient future.



Rithwik MR
S6 ECE

S8 INDUSTRIAL VISIT

The Electronics and Communication Engineering students of the S8 batch (2020-24) at Kerala Technical University recently participated in a five-day Industrial Visit to Delhi, Manali, and Kulu as part of their curriculum. The primary objective of this educational endeavor was to enrich their understanding of industrial practices and offer hands-on experience in various real-world applications.



S6 INDUSTRIAL VISIT

As part of the curriculum of Kerala Technical University, the students of S6 Electronics and Communication Engineering department, (2021-25), undertook a three-day Industrial Visit aimed at enhancing their understanding of industrial practices. One of the key highlights of this educational initiative was the visit to the Kodaikanal Solar Observatory, scheduled for May 2, 2024.



S4 INDUSTRIAL VISIT

S4 Electronics and Communication Engineering department, (2022-26), undertook a two-day Industrial Visit CMFRI.



FAREWELL FOR S8 STUDENTS

Farewells are both bittersweet and profound, marking the conclusion of a chapter while heralding the beginning of new adventures. They offer a moment for reflection on shared experiences, growth, and the bonds forged over time.

All the best for your bright future Dear Students.....

BYE



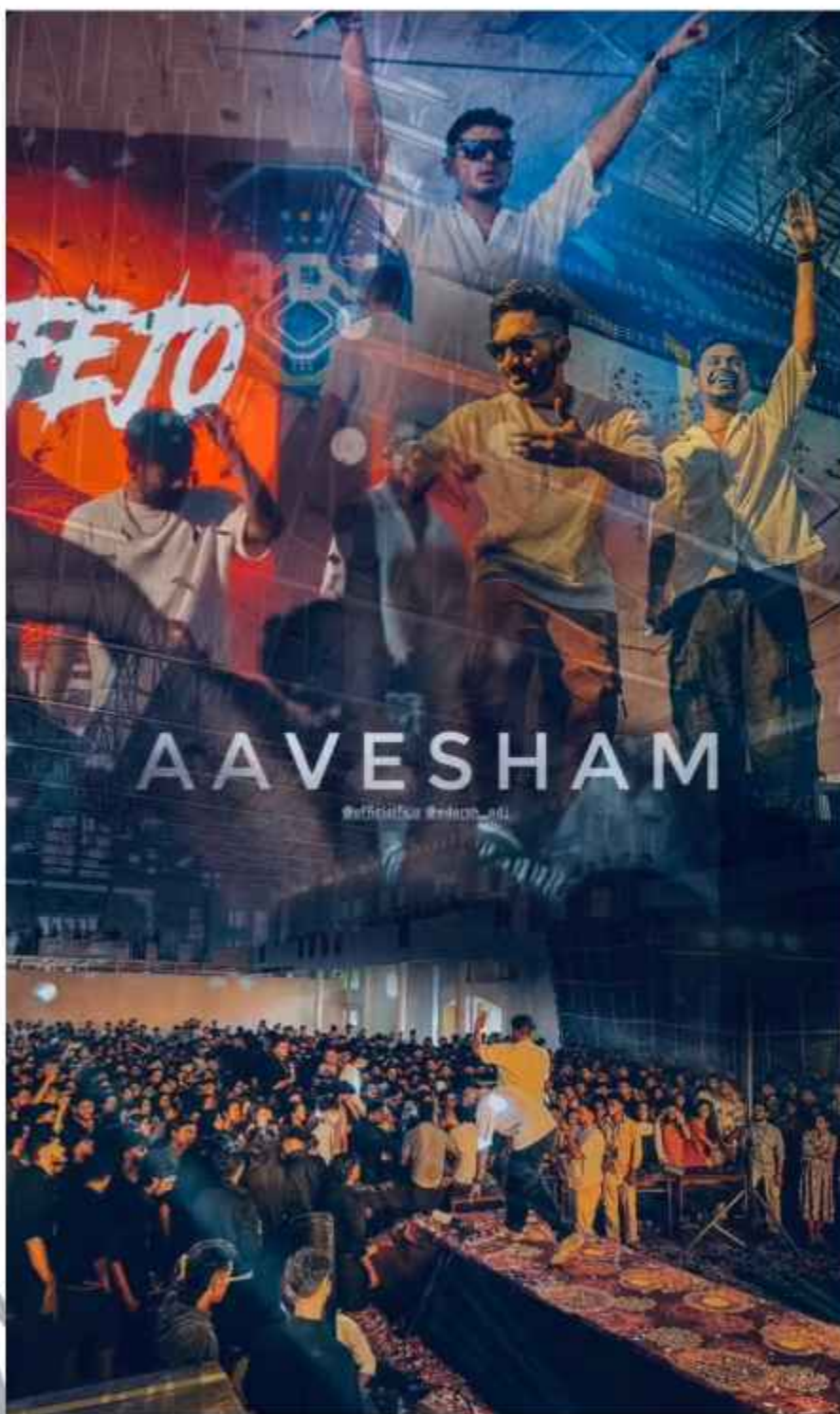
NAAC VISIT

The peer team experts from the NAAC visited the college on 9th and 10th May 2024.



ARTS DAY

At our college, we foster more than just academic learning; we cultivate a vibrant space for artistic exploration and expression. Here, students are not only encouraged to unleash their creativity but also to refine their talents and showcase their creations to the wider community. Supported by top-notch facilities and seasoned faculty, we offer abundant opportunities for exhibitions and performances, creating an enriching environment where aspiring artists can flourish and grow.



Staff Publication


Ms.Sudarshana Vijayan published a paper on “Hybrid Machine Learning-based Breast Cancer Segmentation Framework Using Ultrasound Images with Optimal Weighted Features.

- SCIE, WILEY Publisher, Cell Bio- Chemistry Journal June 2024 edition

External World Interaction

Dr Anto Sahaya Dhas had visited Muthayammal Engineering College, Rasipuram as resource person and delivered a lecture on the topic “AI in Healthcare” on 06th May, 2024.

Dr Anto Sahaya Dhas had visited Sree Narayana Guru College of Engineering and Technology, Payyanur as external reviewer for NAAC on 16th April, 2024.



PROGRAMME EDUCATIONAL OBJECTIVES (PEO)

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1. **Graduates will have successful career in the field of Electronics and Communication Engineering and allied sectors**
2. **Graduates will have the ability to pursue higher studies and research**
3. **Graduates will demonstrate entrepreneurial skills to develop innovative products and services**
4. **Graduates will adapt to different roles in global working environment by respecting diversity and professional ethics**

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