Adi Shankara
INSTITUTE OF ENGINEERING AND TECHNOLOGY
Ph: 0484-2463825
Email: info@adishankara.ac.in
Website: www.adishankara.ac.in

NBA NATIONAL BOARD OF ACCREDITATION

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

EXPLORE, DREAM, DISCOVER

ISSUE 51 | MONTHLY NEWSLETTER | APRIL 2022

GENESIS

IGNITING THOUGHTS

CONTENTS

Vision:

To be recognized at the national and international level for excellence in education and research in Electronics and Communication Engineering.

Mission:

- Inculcating leadership qualities, adaptability, and ethical values
- Imparting quality education in the field of electronics, communication, and related areas to meet the challenges in the industry, academia, and research
- Nurture the growth of each individual by providing a dynamic and conducive learning environment.

.

The Best Engineering College in Kerala, Award of Centre for Education Growth and Research (CEGR)

ASIET bags The Best Engineering College in Kerala, Award of Centre for Education Growth and Research (CEGR) for the year 2022. The award is for outstanding and exemplary contributions in the field of engineering education, skill development, and research. It was received by Mr. Kesavadas V, Director, ASIET during the 17th Rashtriya Shiksha Gaurav Puraskar Ceremony 2022 held in New Delhi.

DEPARTMENT ACTIVITIES & ACHIEVEMENTS

Pulse Oximeter :

Developed by Prof (Dr) V T Gopakumar

Hon. Kerala Industrial minister Mr. P Rajeev watching the demonstration of an indigenous, low-cost, USB charging OLED display Pulse oximeter (Rs1000/-), which was developed by Dr. V T Gopakumar, Prof., Dept. of ECE. He is the recipient of Rashtriya Uchchatar Shiksha Abhiyan (RUSA) funding of Rs 2,00,000/- in the year 2021 through the Center for Innovation and Technology Transfer and Industrial Collaboration (CITTIC), CUSAT. Mechanical Design, 3D printing and initial testing and verification of the same were done at the FAB lab of ASIET

ZEST - FIRST YEAR ORIENTATION PROGRAM

An orientation program for the 2021-25 batch was organized by the NSS unit of our campus on the 18th and 19th of April, On the 18th The sessions were handled by Mr. Varghese Paul s and Mr. Mangaldas. The session gave an insight into the opportunities in different areas that students can explore.

On the 19th, the sessions with lots of activities involving students were handled by RJ Vinu and RJ Sharath.

AAKASHIEN ALUMINI MEET

Conducted on April 24th at the College Auditorium from 10:00 AM to 02.00 PM. A total of 131 Alumni Members attended the function. Event started with a registration, followed by an Inaugural Ceremony. Principal Dr. V Suresh Kumar, Alumni Association President Mr. Anoop Ismail, Secretary Mr. Krishnaprasad V, HOD's of various Departments and Alumni Staff Coordinators were present in the inaugural ceremony. After lighting the Lamp, senior alumni shared their nostalgia about college, followed by introduction by all the alumni's present. Various prizes for best entrepreneurship, Industrial excellence, Arts and literature excellence, Academics etc. were given to alumni of each department. The staff members present in the function shared their views on the function and also on alumni. After the formal welcome, various programs were arranged for Alumni. The event went to a gala by playing a funny questions game. Student coordinators also arranged various dance programs of students. Prizes were distributed to winners. And then the Nostalgia Play – Videos and Photos of the alumni during the college days were played as a presentation. A wonderful musical treat by the ASIET band was there. The event concluded by formal vote of thanks and a Lunch.

Let's !

CONGRATULATE

CERD - STUDENT PROJECT FUNDING

Happy to announce the selection of student project for Funding under the CERD - SPS scheme by APJ KTU. Project titled “MED- MATE”; proposed by Farhan Najeeb, Finto Shajan, Aswani M Ravi, Aushin Jose Manjooran & Aisha Mehrin (S8ECE) under the guidance of Ms. Aswathy N and Ms. Anju George, Assistant Professor, Department of Electronics and Communication got selected for a funding of Rs. 12, 000.

Ms. Aswathy N

Ms. Anju George

Aushin Jose Manjooran

Aisha Mehrin

Aswani M Ravi

Farhan Najeeb

Finto Shajan

Second Prize in Project Exhibition/Presentation

The project presented by M G Sukanya (S4 MTech, VLSI & ES), Parvathy S Kumar, V U Anakha, Krishnapriya Bobban and Malavika J (S8 EC) won Second Prize for the project "Mixer Design for Global Navigation Satellite System" guided by Ms. Prameela B, Assoc. Prof. Dept. of ECE, under analytical category in SRISHTI 2022 held at Saintgits College of Engineering on 25th and 26th April 2022

Ms. Prameela B

M G Sukanya

Parvathy S Kumar

Malavika J

Krishna Priya Boban

V U Anakha

PLACEMENTS

CONGRATULATIONS

Hridaya U Mallia

insemi™ TECHNOLOGY

Gokul G Pillayi

6D Technologies
Smart Ideas, Delivered

CONDOLENCES

With great sadness we share the sad news on the untimely demise of our alumni DIVYA M K(2013-2017 BATCH). ECE family convey our deepest condolences to the family and friends. May God Bless peace to the departed soul and courage to the bereaved family to bear the irreplaceable loss.

TECH TALKS

TEACHER'S ZONE

DATA PROCESSING AT THE EDGE - EDGE COMPUTING

Author: Mr.Jayesh T P, Assistant Professor, Department of ECE

What is edge computing and why does it matter?

Edge computing is transforming the way data is being handled, processed, and delivered from millions of devices around the world. The explosive growth of internet-connected devices -the IoT- along with new applications that require real-time computing power, continues to drive edge-computing systems

Faster networking technologies such as 5G wireless, are allowing for edge computing systems to accelerate the creation or support of real-time applications, such as video processing and analytics, self-driving cars, artificial intelligence, and robotics.

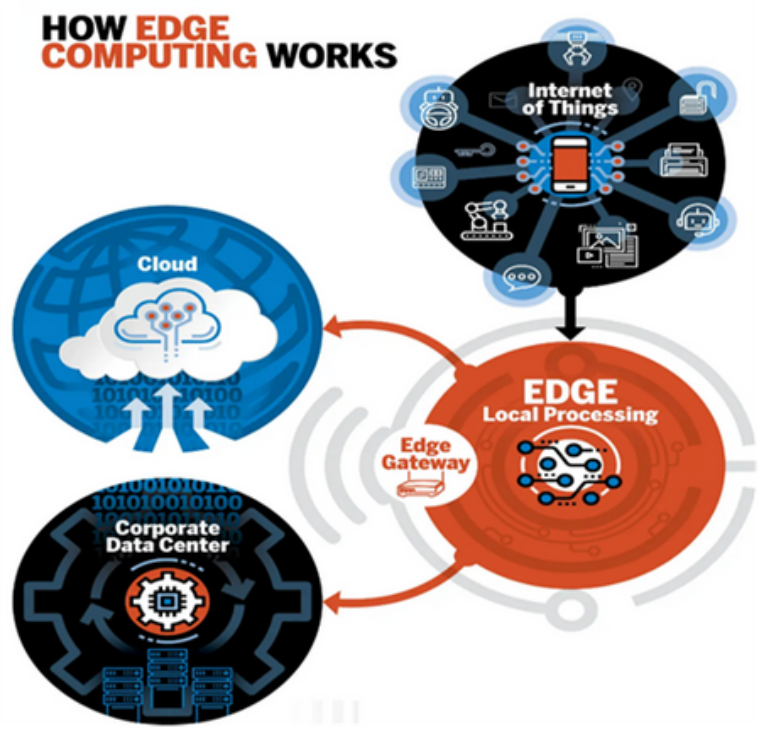
How does edge computing work?

Edge computing brings computation and data storage closer to the devices where it's being gathered, rather than relying on a central location that can be thousands of miles away. This is done so that data, especially real-time data, does not suffer latency issues that can affect an application's performance. In addition, companies can save money by having the processing done locally, reducing the amount of data that needs to be processed in a centralized or cloud-based location. Edge computing was developed due to the exponential growth of IoT devices, which connect to the internet for either receiving information from the cloud or delivering data back to the cloud. And many IoT devices generate enormous amounts of data during the course of their operations.

.

Think about devices that monitor manufacturing equipment on a factory floor or an internet-connected video camera that sends live footage from a remote office. While a single device producing data can transmit it across a network quite easily, problems arise when the number of devices transmitting data at the same time grows. Instead of one video camera transmitting live footage, multiply that by hundreds or thousands of devices. Not only will quality suffer due to latency, but the costs in bandwidth can be tremendous.

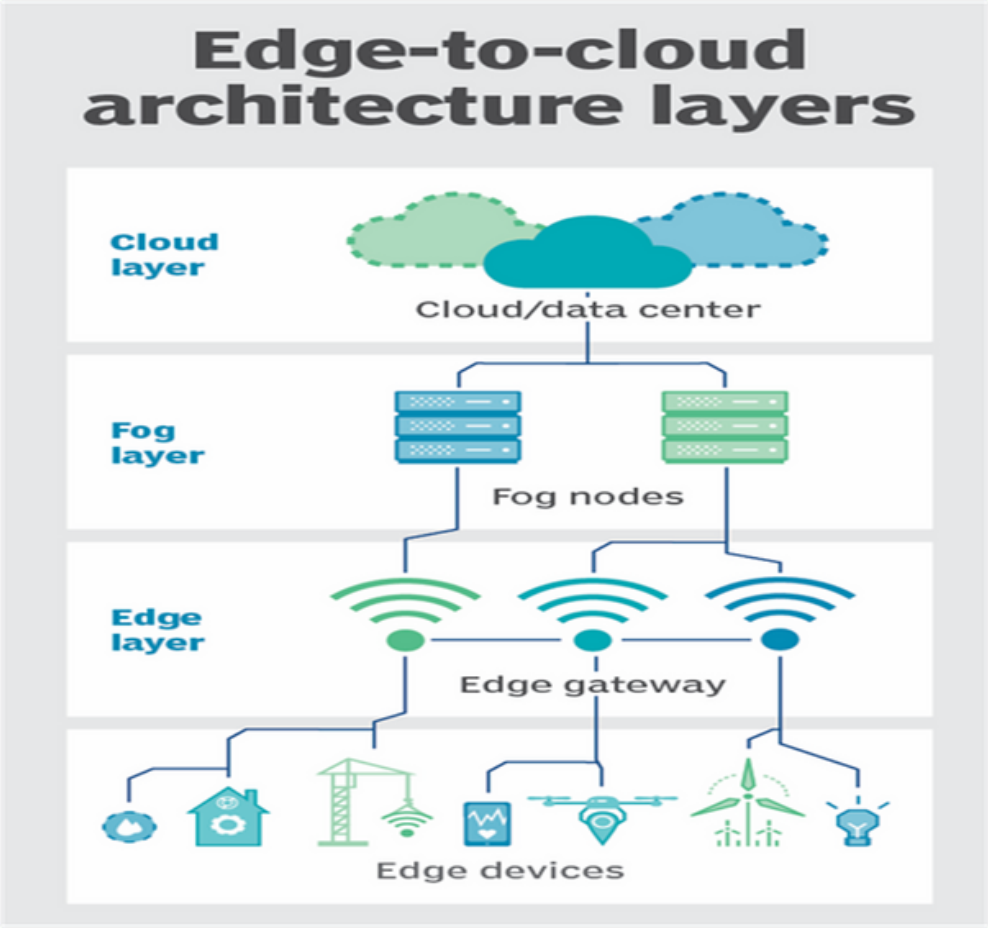
Edge computing hardware and services help solve this problem by being a local source of processing and storage for many of these systems. An edge gateway, for example, can process data from an edge device, and then send only the relevant data back through the cloud, reducing bandwidth needs. Or it can send data back to the edge device in the case of real-time application needs.



Edge vs. Cloud vs. Fog computing

Edge - Edge computing is the deployment of computing and storage resources at the location where data is produced. This ideally puts compute and storage at the same point as the data source at the network edge. For example, a small enclosure with several servers and some storage might be installed atop a wind turbine to collect and process data produced by sensors within the turbine itself. As another example, a railway station might place a modest amount of computing and storage within the station to collect and process myriad track and rail traffic sensor data. The results of any such processing can then be sent back to another data center for human review, and archiving and are merged with other data results for broader analytics.

Cloud - Cloud computing is a huge, highly scalable deployment of computing and storage resources at one of several distributed global locations (regions). Cloud providers also incorporate an assortment of pre-packaged services for IoT operations, making the cloud a preferred centralized platform for IoT deployments. But even though cloud computing offers far more than enough resources and services to tackle complex analytics, the closest regional cloud facility can still be hundreds of miles from the point where data is collected, and connections rely on the same temperamental internet connectivity that supports traditional data centers. In practice, cloud computing is an alternative or sometimes a complement to traditional data centers. The cloud can get centralized computing much closer to a data source, but not at the network edge.



Fog - Fog computing environments can produce bewildering amounts of sensor or IoT data generated across expansive physical areas that are just too large to define an edge. Examples include smart buildings, smart cities, and even smart utility grids. Consider a smart city where data can be used to track, analyze and optimize the public transit system, municipal utilities, and city services, and guide long-term urban planning. A single edge deployment simply isn't enough to handle such a load, so fog computing can operate a series of fog node deployments within the scope of the environment to collect, process, and analyze data.

STUDENT'S ZONE

Electric vehicles: The now, the near future, and the never again

By Jeffin Paul S2ECB

The electric vehicle (EV) revolution is speeding up, but it can only go so far without the necessary infrastructure and technology. As thinking shifts from fossil fuels to all-electric, visions of a brighter, more optimistic world come into view. The UK government's pledge to ban the sale of all new non-electric cars, including gasoline, diesel, and hybrid vehicles from 2035, highlights the drive to end the nation's contribution to Climate Change by 2050.

If the 2035 target is to be met, we will all see evolutions in the transport and mobility routines that keep our lives moving. From using ultra-fast wireless charging to supporting the developing world by repurposing car batteries, WMG, at the University of Warwick, is delivering advances in electrification knowledge and technologies, which will enable the leap to an electric automotive future. So, for the now and the near future, what do we need to consider?

Making batteries better

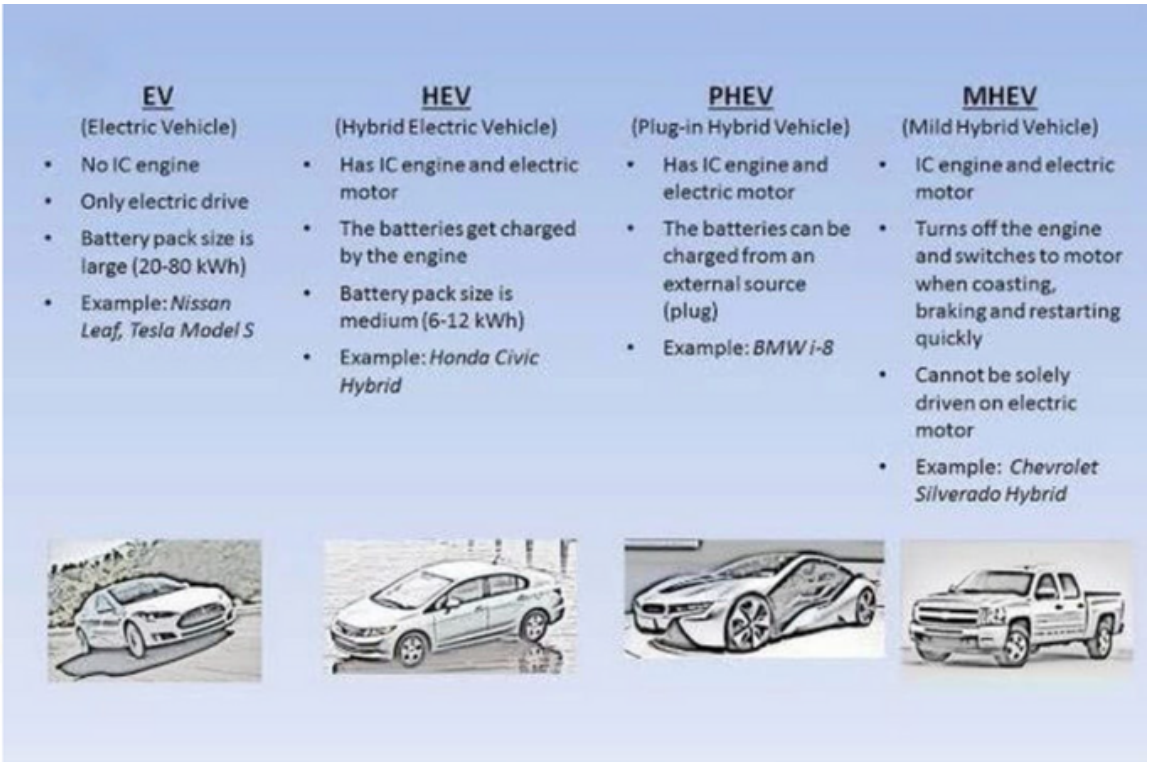
Demand for EVs is surging in the UK and registrations of plug-in cars increased by more than 160,000 between 2013 and 2018. With the electrification industry estimated to be worth over £6bn (US$7.8bn) by 2025, the next decade presents a massive opportunity.

However, EVs will remain on the outskirts of the mainstream until consumers are offered something that matches the model of usability, convenience, and affordability that conventional vehicles offer today according to Professor David Greenwood. He is driving forward the £2m Innovate UK-funded Multi optimal Solutions for Energy Storage Systems (MoSESS) project in a consortium that is led by McLaren Automotive and includes project partner A123 Systems to reduce the size, weight, and emissions of current EVs.

The vision is to improve all aspects of performance and reliability and unlock the possibility of producing a battery solution that matches the performance of conventional gasoline and diesel vehicles, meeting consumers' expectations, helping drive the uptake of hybrid and electric transport and supporting the Government's 'Road to Zero' strategy—aiming to make road transport emission-free by 2050. "The reason people don't buy electric cars today is because they're too expensive, there is widespread scepticism around the battery range and therefore pressing questions around the regularity and reliability of charge points. The current best-in-class technologies are able to meet the needs of a small percentage of users and the need to plan an efficient battery charging infrastructure is key," explains Greenwood.

Current technology results in large EV batteries with long charging times. Even best-in-class energy densities mean that the battery needs to be comparatively large to achieve the desired electric range capability. Because they are large, they are also heavy, which means the vehicle consumes more energy during a journey. Then, for safety reasons, currently, affordable traction batteries need to have a high level of complexity. So all in all you have a heavy, inefficient, cumbersome part.

"We aim to develop and integrate within a vehicle, a battery system based on a mixture of highly energy dense solid-state cells and high power density cells," says Greenwood. "These new battery types are more efficient with better energy storage, a smaller package and the ability to fast charge. We want to deliver a solution with a simpler cooling system, a reduced dedicated crash structure for the battery, reduced charging time for up to 500km electric range, and a weight saving of up to 10% compared to existing solutions."



Although efficiency, convenience, and reassurance are vital factors for consumers, cost also remains front of mind in the decision-making process for prospective EV adopters. WMG's involvement in the Nextrode project, funded by The Faraday Institution, is tackling this. The project explores ways to make electrodes for Li-Ion batteries.

Staff Achievements

Dr. V T GOPAKUMAR

- Attended "Photonics Spectra Spectroscopy Conference" organized by Photonics Media, 100 West St., Pittsfield, the USA on April 12-13th,2022
- Reviewer for OPTICA women Scholarships 2022 for financial support of $10,000/- for 20 women scholars around the world.

PRAMEELA B

- Reviewed articles for the International Journal of Microwave and Wireless Technologies

NEETHA K

- Completed an online course on Wireless Communications Onramp

DIVYA V CHANDRAN

- Completed a 30 days Master's class on Python Programming at Pantech e-Learning Pvt Ltd. Chennai from 28.02.2022 TO 29.03.2022.

JAYESH TP

- Attended 5 days Faculty Development Program on "3D Printing & Additive manufacturing" from 18/04/2022 to 22/04/2022 conducted by Musaliar College of Engineering and Technology, Pathanamthitta

Student Achievements

BATCH	NAME	EVENT	ORGANIZERS	DATE
2021-25	SREERAG	Cyber security	Simply learn	2/15/2022
2021-25	SREYAS KUMAR C V	Data Science for Beginners	BOARD INFINITY	12/19/2021
2021-25	SREYAS KUMAR C V	Responsive Web Design	FreeCodeCamp	10/20/2021
2021-25	NAZILA K N	Data science	NASSCOM	12/19/2021
2021-25	UTHARA C P	Data Science for Beginners	Future skills	12/19/2021
2021-25	GAYATHRI VISWANATH	Deep learning	NIT	2/25/2022
2020-24	NOEL MATHEW SHILLOW	5 day internship on introduction to autocad	Techmaghi	2/2/2022
2021-25	Devika vk	Deep learning	NIT	2/25/2022
2019-23	ELSA PAUL	Embedded system	Zindot Technologies	10/3/2021
2021-25	SREERAG	Linear discriminant analysis applications	Great learning academy	4/4/2022
2021-25	NAVANEETH SAJAN	ETHICAL HACKING	UDEMY	4/25/2022
2019-23	Vyshnav CJ	Labyrinth State Level Treasure Hunting Competition	National Service Scheme, College of Engineering, Adoor	12/03/2022

EDITORIAL BOARD

Dr BOBBY MATHEWS C
Head Of Department(HOD).
Department of Electronics and Communication Engineering

MS ANJANA S
Assistant Professor
Department of Electronics and Communication Engineering

MS NEETHA K
Assistant Professor
Department of Electronics and Communication Engineering

Ms Hridaya U Mallia
S7 ECA

Ms Kavya G Padiyar
S7 ECB

Mr Samuel Sabu Thomas
S5 ECB

Ms Reshmi R
S5 ECB

Ms Titya Ramchandran
S3 ECB

Ms Sereen Sabu
S3 ECB

Ms Dilna Davisal
S3 ECA

Ms Aswathy Manojl
S3 ECA