



FXEC RANKINGS AND AWARDS



Highlights of the Week

Skill Training

Dept. of CSE

- Web Technology using Java Script
- Cloud Computing

Dept. of CSBS

- IT Software Solutions for Business using Power BI

Dept. of IT

- Java Coding Skills
- Python for Data Analysis and Visualization

Dept. of AI&DS

- IT Software Solutions and Critical Thinking with Python

Dept. of ECE

- Mobile Robotics
- MATLAB Programming

Dept. of EEE

- PCB Design
- Industrial Automation - PLC

Dept. of Mech

- Robotics Control Systems using TINKERCAD
- Finite Element Analysis using ANSYS
- Numerical Analysis of Heat Transfer using Fluent

Dept. of Civil

- Construction & Building Technology
- Digital Construction

Celebrating 75 Years of Independence - Contests

Azadi Ka Amrit Mahotsav

- Poster Making Contest
- Drawing Contest
- Photography Contest
- Department wise Display of Indian Historic Monuments/Freedom Fighters
- Aval Vikatan Events
- Online Quiz
- Exhibition
- Display of Slogans
- Elocution
- Essay Writing
- Poetry Writing
- Group Dance
- Display of Short Films
- Rangoli

The details of the contest & the registration Link is available in the official Instagram Page

CLICK HERE

TO REGISTER

AVAL VIKATAN EVENT



Placement process begins @ FXEC for the academic year 2022-2023.

The institute is in the forefront in shaping up the career objectives of students and make them stand tall amidst their counterparts.

STELLA, I CSE B

In this present era, getting recruited by a company during the course of study is the prime objective of any student pursuing an Engineering Degree. Parents invest a lot of money in educating their children to see them learn the in-demand professional skills, do internships in renowned companies and land on a lucrative job with ease.



Acknowledging this, Francis Xavier Engineering College @ Tirunelveli is in the forefront in shaping up the career objectives of the students by providing ample

opportunities to equip themselves with the industry required skills and get selected by the multi-national companies. The training

provided helps the students of FXEC build a strong foundation for the professional career ahead without facing the real-world

job struggle or peer-competition. As an outcome of these two final year students have received offers from Hexaware Technologies.

My College, My Pride

I am currently pursuing my final year B.E in Computer Science and Engineering @ Francis Xavier Engineering College. I completed my schooling at Rose Mary Matric. Hr. Sec. School. At FXEC, the relationship between the student and the teachers is very cordial which gave me an opportunity to excel in my studies.

The right ambience provided at FXEC enhanced my skills sets, feel confident and become industry-ready. The three amazing years just passed in the blink of an eye. In addition to the concepts of Computer Science, the courses taught made me explore more on the emerging trends in the programming field. The faculty members guided me

in every step of my success and failures. The course structure and the exposure to Applied Labs makes FXEC a dream college for every aspiring engineer. To my credit, through the applied labs, I have published papers titled 'Machine Learning Based Efficient and Secure Car Parking System' and 'IoT based Blind People

CONTINUED ON PAGE 2

Celebrating 75 Years of Independence
Theme: "Nation First, Always First"
Fortnight Competitions
01 August 2022 - 15 August 2022

Exclusive for FXEC Students

Participate & Earn Up to 300 Points

Certificate and Shield will be given to all the Winners

For Details: 8754903042
EVENT COORDINATOR

For Registration Link & Details: login to https://www.instagram.com/fx_ec

JERLIN CHELLAM J II AI & DS

As India celebrates the 75 years of Independence - Azadi Ka Amrit Mahotsav, Francis Xavier Engineering College has organized fortnight competitions from 1 Aug 2022 to 15 Aug 2022. On the first day of the fortnight competitions students designed their posters on the theme Indian Freedom Fighters and uploaded in the Instagram page with a (hashtag) #fxecnationfirst. The event organized created the vibe of celebrating the 75 years of Independence.



Up scaling the academia in the Global knowledge index Creating ample industrial exposure



ANGELIN MIRACLE BELLA B, II AI & DS

In a bid to support the students to keep themselves abreast of the new trends of technology, Department of Artificial Intelligence and Data Science organized an Industry Institute Interaction with 3i INFOTECH, expert in cloud and digital solutions. 3i INFOTECH as a global provider of IT Infrastructure services has a proven global delivery capabilities, and has forged strategic alliances with large OEMs. The company is powered by cutting-edge technology solutions, 20+ IP-based

software products, solution accelerators, tried tested methodologies, and a vast talent pool of technology experts, driving business transformation for 1,000+ customers across 50 countries. Mr. Prakash, AVP Head - SCOE, 3i INFOTECH, interacted with the students of Artificial Intelligence and Data Science. The students received the inputs on Data Science concepts and Machine Learning Projects. The expertise shared by the Industry experts gave the

students go ahead of the learning curve and know the importance of UI Path - a Robotic Process Automation platform for end-to-end high-scale automation and Bot creation. Mr.E.John Singh Russel, Admin & Operations Manager, 3i INFOTECH and Mr. Jerome, HR manager were also present. The event was organized by Dr. Anita, Head, Department of Artificial Intelligence and Data Science Engineering under the guidance of Dr. Lourdez Poobala Rayen, Prof. EDC, FXEC.

FXEC receives "The best College of Engineering in Placements Award"



STELLA, I CSE B

Francis Xavier Engineering College established in 2000 has reached various milestones since inception. Assuring 100% placement to all the eligible candidates, the college has set up an excellent system to impart the in-demand skills required by the industries. During the academic year 2021-2022 the institution offered 30 foundational skills, 32 mandatory skills and 164 faculty initiative skills. Further, to make the students industry ready, industry specific skills were offered by TCS Code-Vita, Barclay's, Six Phrase, Rubicon, Bytes, Skillrack and so on. Acknowledging the skill sets of the students, various multinational companies including Amazon, Zoho, TCS, Qualcomm, Hexaware, MiraFra, Wipro, Rakuten

Kaar Technologies, Atos, Caggemini, Iwawe, National Instruments, Infosys, Hashmap, Mydshops, Webberax, Sutherland, Sakthi Auto Components, Renault Nissan, Syrma, Zuci, Vinsinfo, Base Automation, Wabco, Neeyamo, Centizen, Digisailor, Q Max systems, Vicanpro, Tech Mahindra, Mobius, Vicanpro, Virtusa conducted placement drives during the academic year 2021-2022. The institution creates the best platform to support the students master professional skills required by the companies. The 20 Applied labs established in the institution make all the difference. The Applied Labs support the students to stand tall with the international counterparts in the field of Cyber Forensics, Mobile App Development, Embedded

and IOT, Data Science, Augmented and Virtual Reality, Machine Learning, Robotics and Automation, Programming & Coding, Innovation & Product Development Design, Modelling & Analysis, Architecture and Design, PLC and Industrial Automation, Ideation, Advanced Communication Systems, Advanced Electronics System Design, Next Generation Computing, Electrical Drives and Automation, Manufacturing and Fabrication, Hackathon and Web App Development. The students are allowed to work in these labs and leverage innovation using the advanced technological sources and present their projects in international level contests. The above initiatives made all the differ-

ence this academic year. The institution feels the pride of placing 81 final year students in TCS with greater career prospects. A total of 729 offers were distributed during the academic year 2021-2022. Further 274 students are earning while studying. Acknowledging these achievements in placements, the college has been awarded as the Best Engineering College in Placements in South Tamil Nadu by News-18. Dr. Cletus Babu, Chairman SCAD Group of Institutions received the award from Thiru. Ponmudi, the Honourable Minister for Higher Education, Tamil Nadu. at a meeting held for the purpose in Chennai.



Glimpses of Recent Activities



FXEC Staff & Students @ the 44th Chess Olympiad Torch Relay Night Tirunelveli District Level Chess Tournament.



Sheik Abdulla, IV B.Tech IT started his Internship @ Zoho with Stipend of Rs 20,000 per month.

PLACEMENTS 2021-2022

Total offers
Received

729

No. of Companies
conducted recruitment
drives

122

Highest
Package

16 LPA

FROM PAGE ONE

My College, My Pride
Monitoring System for Visually Impaired Care Homes'. I have also done projects titled 'Bus Tracker' which was developed using MEAN stack and 'Vehicle Accident Alert System' which is an IoT based project.

My consolidated CGPA for the three years is 9.35.

I'm thankful to the Training & Placement Cell for providing a platform to enhance my skills and opportunity to showcase them. I express my sincere gratitude to the Head of the Department, FA and all my lovable batchmates for shaping my career and supporting me to get placed in Hexaware Technologies.

FROM PAGE TWO

Seven Patent...
efficiency in border security surveillance system" and "Intelligent device for the safe travel to prevent accidents and provide route finder application using API" guided by Dr. T. C Subbulakshmi, Professor, Department of Information Technology.
Dr. S. Cletus Babu, Chairman, SCAD Group of Institutions, Dr. K. Jeya Kumar, GM (Development) SCAD Group of Institutions, Mr. Krishnakumar, GM (Administration) SCAD Group of Institutions appreciated all the students for their Achievement.

MANUSCRIPT EDITOR



**STELLA D,
II CSE B**

Seven Patent Publications in a row - Students of Francis Xavier Engineering College become Inventors

Creating Next Gen Scientists with adaptive creativity

RACHEL SANTHINI R, II CSBS

In a bid to make the students delve into the next gen technology and empower each individual to create products that are adapted to specific needs, Francis Xavier Engineering college is in the forefront in providing the best platforms for the students through various initiatives.

The students, right from the first year are encouraged to actively involve themselves in developing their skill sets required by the Industries.

Unlike any other colleges in the southern region, the college provides a 30 day foundation skill training program for the first year students as they get into the portals of the college. Hands-on training is given on the rudiments of engineering, which creates in the students a verve towards engineering career. The academic curriculum is structured in a way to give a lot of practical exposure. Most of the courses taught are theory cum practical courses.

Further, to support every student jumpstart with novel



Student members of the Robotics and Automation Applied Lab working on a project.

ideas and design innovative products, 20 state-of -the-art applied laboratories are established in the campus. The students are allowed to work in the Applied Labs in the afternoon sessions and involve themselves in creating new products to support the society.

The student members of all the applied Labs are vibrantly active throughout the year - participating in international conferences, national level hackathons and publishing papers in Scopus and SCI Indexed Journals. The students are also involved in

publication of Patents with the support of the professor in-charge of the Industrial Applied Laboratories.

During the academic year 2021-2022, the students developed more than 43 Projects, 56 Products and have won in more than 49 National level contests.

As an outcome of all the initiatives 7 patents have been published by the students during the academic year 2021-2022. Recently, the students of Robotics and Automation Applied Lab published a patent titled "Alignment and Tilling of

Field Bund" guided by Dr. A.Ravi, Professor Dept of Electrical and Electronics Engineering. The students of the Embedded and IOT Applied Lab published a patent on "A Smart Manhole Monitoring System Using GSM & Internet of Things (IoT), guided by Dr. K. Lakshmi Narayanan, Associate Professor, Dept of Electronics and Communication. The student of Ideation Lab published two patents titled "Implementation of smart Technique to improve the

CONTINUED ON ► COLUMN ONE

Creating competent professionals:

Interaction with COE, EasteringTech, USA

CHELSEA C, II AI&DS

Department of Artificial Intelligence and Data Science will be the horizontal related with data science. He Science, organized an science of all the other also provided an insight into Interaction with Mr. Patrick vertical engineering streams. the real-time applications in Amalraj, COE, Eastering For the queries raised by the the aforementioned domain. Tech, USA During the students, he explained the The interaction was very session, the expert Hype cycles, Yolo Model, fruitful.



World Nature Conservation Day FX'ians create a momentum towards conserving the Nature



YRC Volunteers planting a sapling

**ABRAHAM JEBAMANI RAJ T
IV MECH**

World Nature Conservation Day is observed annually on necessity to preserve the environment and the natural resources. As the world faces challenges like climate change, deforestation, urbanization and loss of flora and fauna, it is important to protect nature and keep our natural environment safe. One of the primary objectives of World Nature Conservation Day is to draw attention to flora and fauna that are threatened with extinction. This special day emphasizes on preserving several components of nature which include energy resources, soil, water and air.

Acknowledging the importance of humans living in harmony with the nature, The Youth Red Cross Volunteers of Francis Xavier Engineering College organized a series of activities. Dr. V. Velmurugan, Principal, FXEC, Dr.G.Rajakumar, COE, FXEC and the Student volunteers of Youth Red Cross planted the saplings. Further, the students organized awareness campaign by placing placards with phrases like "Nurture Nature", "Avoid Single-Use Plastic", "Switch to Energy Efficient Appliances" and the like.

Dr. K. Jeyakumar, General Manager, Development & Mr. Krishnakumar, General Manager, Administration appreciated the volunteers for their vibrancy towards supporting nature. The event was organized by Abraham Jebamani Raj, IV Mech, Vice-President YRC-FXEC and Mr. J. David Ayling, Coordinator, YRC, FXEC, Assistant Professor of English. Mr. Zahariya Gabriel, Campus Manager, while talking to the students, stated that the students must organize many events as such and keep the campus vibrant all through out the year.

Nothing can beat Hard work: P. Vignesh, HR, TCS (Tamil Nadu and Pondicherry)

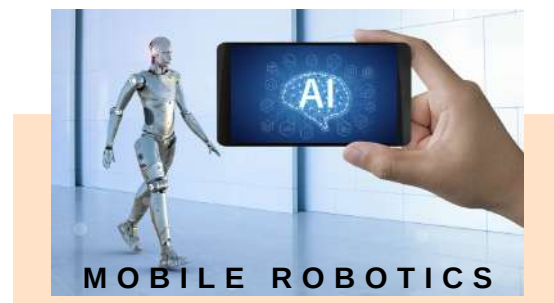
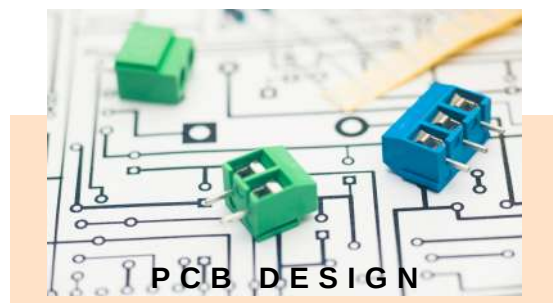


STELLA, I CSE B

The 22nd Annual Day of Francis Xavier College Engineering was organized to make the students feel the right tempo of celebrations and festivities - participating in cultural shows and receiving awards for the activities organized. P. Vignesh, Head, Department of Employment, TCS, was the Chief Guest and honored the achievers. He, in his address stated that TCS is working to recruit more intellectual young minds from India and internationally who are tech savvy. This year alone over 1 lakh candidates are recruited for its various firms. He added that "Nothing can beat Hard work". Students must work hard to become achievers. Every students of this esteemed institution should be achievers.

this young age each one should aim high. He, further stated that students should dream of earning 1 crore per annum so that each one will start working for it. The Audio-Visual of the Annual report was presented by Dr. V.Velmurugan, principal, FXEC. The Best Out Going student Award was received by Abishek Chazoor, Department of ECE. The students were also awarded under the criteria Best Applied lab (Rolling Trophy), Best Applied lab performer, Technical Championship, Best Innovator Award, Best Researcher Award (STUDENT), Best Department Award, Engineer of "Industry's Choice, FXEC Ambassador, Buddy Professional and Best Learner Award (NPTEL) and more.





Creating scope and opportunities for the Students: Developing talents and enhancing skills

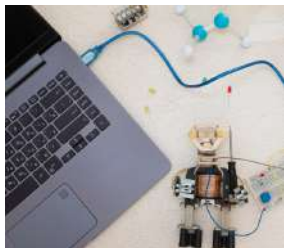
RACHEL SANTHINI R, II CSBS

Educational institutes have a very important role to play in this dynamic era wherein, the society needs a more robust education system to face the ever changing technological scenario. Along with the strong digital skills, the world economic forum has predicted that new skills like complex problem-solving, critical thinking, creativity, people management, teamwork and collaboration, emotional intelligence, judgment and decision-making and cognitive flexibility are required to keep pace with the emerging trends in employability forums.

With a view to leverage the full potential of opportunities created by advancement in technology, Francis Xavier Engineering College organised mandatory skill training and placement fit training programme combining the futuristic subjects with the traditional ones to meet the changing demands of the industry. The list of trainings provided include: **Web Technology using Java Script, Cloud Computing, IT Software Solutions for Business using Power BI, Java Coding Skills, Python for Data Analysis and Visualization, IT Software Solutions and Critical Thinking with Python, Mobile Robotics MATLAB Programming, PCB Design, Industrial Automation**

- **PLC, Robotics Control Systems using TINKERCAD, Finite Element Analysis using ANSYS, Numerical Analysis of Heat Transfer using Fluent, Construction & Building Technology and Digital Construction.**

Mobile Robotics Skills

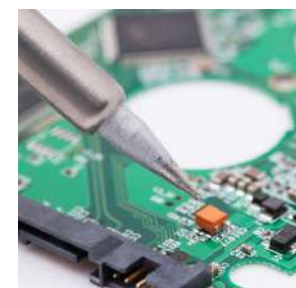


The mobile robotics skills provided enabled the students to design various robots like Maze solver and Line Follower using Arduino. During the first session students were familiarised with the components of Robotics including Arduino UNO, various Sensors like Ultrasonic sensor, PIR Sensor, Temperature sensor and Wifi Module. Informative videos related to mobile robotics were shown to the students.

Printed Circuit Boards

Printed circuit board (PCB) design brings electronic circuits to life in the physical form. Using layout software, the PCB design process combines component placement and routing to define electrical connectivity on a manufactured circuit

board. An effective PCB design can help in reducing the chances of errors and also the possibilities of short circuit. PCBs have a vital role in this modern day as technology is improving daily. As they are the heart of any electronic device, they come in various configurations which allow them to serve various applications in different industries. Acknowledging the importance of making an engineering student master this skill, the Department of Electrical and Electronics Engineering organised the skill training on PCB Design using EasyEDA software. The skill training served as the best platform for the students to know more about the PCB technology.



Our Student Speaks



RACHEL SANTHINI R, II CSBS

With the paradigm shift in the education system with respect to the teaching - learning process, the emphasis has switched to developing skills rather than rote learning and not the other way round. I feel the pride of being a part of Francis Xavier Engineering College. The Inclusion of mainstream skills into the curriculum is an advantage for FXEC students. The Skill trainings offered at various levels create in us a flair for engineering and make us tech savvy. Further, the trainings support us to develop holistic skill set that includes cognitive, social, and emotional skills. When talking about Cognitive skills the trainings enhances the ability to understand complex ideas, quickly adapt to new developments, apply reason to a situation, and think creatively. A dynamic learn and do culture is created through which we students get to understand and hone socio-emotional skills to navigate interpersonal relationships and develop leadership potential, while working in a team. I believe that my four years of stay at FXEC will support me reskill and upskill my knowledge and get recruited by renowned multinational companies.

"FXEC Supported me to Unlock my talents and develop my skills."



ARTICLES

Does robotic surgery improve outcomes?

HARINI GOMATHY S
II ECE A

Does robotic surgery improve outcomes? Robotic surgery is often heralded as the new revolution, and it is one of the most talked about subjects in surgery today. Surgical robotics is a new technology that holds significant promise. Robotic surgery is often heralded as the new revolution, and it is one of the most talked about subjects in surgery today. Up to this point in time, however, the drive to develop and obtain robotic devices has been I

argely driven by the market. Robotic surgery is a new and exciting emerging technology that is taking the surgical profession by storm. Up to this point, however, the race to acquire and incorporate this emerging technology has primarily been driven by the market. In addition, surgical robots have become the entry fee for centers wanting to be known for excellence in minimally invasive surgery despite the current lack of practical applications. The

robot matches the doctor's hand movements to perform the procedure using the tiny instruments. Therefore, robotic devices seem to have more of a marketing role than a practical role. Whether or not robotic devices will grow into a more practical role remains to be seen. There is no doubt that they will become an important tool in the surgical armamentarium, but the extent of their use is still evolving



"Robotic surgery are types of surgical procedures that are done using robotic systems."

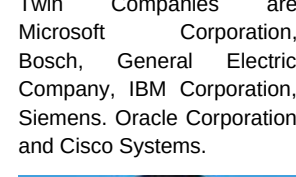
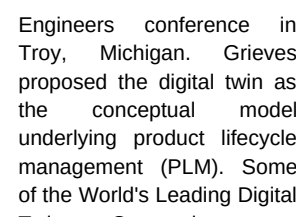


LUMINA JOAN C
II ECE A

Digital twin – when the real world meets the digital world

Digital twin is the virtual replica or a digital representation of a physical object or system that can be used to run simulations before actual devices are built and deployed. So how does a digital twin work? Digital twin is brought into life by data scientists and applied mathematicians. They study the physics that resides inside a physical object or a system being mimicked and use that data to develop a mathematical model that simulates the real-world original in digital space. The twin is constructed to receive input from sensors gather data from a real-world

counterpart. The twin is constructed so that it can receive input from sensors gathering data from a real-world counterpart. Digital twin was founded by Oracle Corporation, a multinational technology company headquartered in Austin, Texas, United States. Oracle IoT Digital Twin Implementation works on three pillars, namely, virtual twin, predictive twin and twin projections to solve different kinds of problems. The concept and model of the digital twin was publicly introduced in 2002 by Grieves, then of the University of Michigan, at a Society of Manufacturing



"Digital twins are a virtual simulation of real-world objects."



Widening the knowledge through Industrial visits:

STUDENTS OF MECHANICAL ENGINEERING VISIT
VIKRAM SARABHAI SPACE CENTRE - TERLS

A batch of 28 students and members of faculty from the Department of Mechanical Engineering, Francis Xavier Engineering college visited the "Thumba Equatorial Rocket Launching Station" TERLS - VSSC, Trivandrum on 15th of June, 2022. The team was given permission to visit the control room where orders and instructions for the launch of RH300 were made. The visit has definitely infused a positive and curious mindset.



VISIT TO NUCLEAR POWER STATION



7 new trends that can help shape the future of Engineering

Technology today is evolving at a rapid pace, enabling faster change and progress, causing an acceleration of the rate of change. However, it is not only technology trends and emerging technologies that are evolving, a lot more has changed making IT professionals realize that their role will not stay the same in the contactless world tomorrow. And, an IT professional in 2022-23 will constantly be learning, unlearning, and relearning. What does this mean for you? It means staying current with emerging technologies and latest technology trends. And it means keeping your eyes on the future to know which skills you'll need to know to secure a safe job tomorrow and even learn how to get there. Here are some new trends which can help in shaping the future of engineering:



reshaping business structures and models in all aspects to meet market change and business requirements, executives are now open to adopt digitalization in respective industries either to keep up with the trend or for handling competition. Adopting digital channels creates value for both industries and society, by centralizing digitalization to handle traditional challenges real values can be driven to fulfill the promises of transformation.

Cloud computing



The future of Cloud computing will straddle both private and public clouds, adding new challenges to the role of IoT.

The increased use of cloud computing will put a premium on skill sets including those comfortable with API (application programming interface) development and a DevOps (unifying software development and software operation) environment.

It will also mean a strategic shift in the mindset of many IT professionals from working with equipment to applications.

VR and Immersive Architecture



Imagine an artificial world that you can observe, walk through reach out to touch objects and see



everything around you respond in real-time.

This is immersive virtual reality and these spaces are created using a combination of computer graphics, wireless tracking technology, headsets, HD projectors, polarized glass and more -- all working together to create interactive and real-life experiences. The world of 3D virtual design and engineering is a fast growing field and there's some seriously forward thinking happening in these fields.

Big data and smart cities



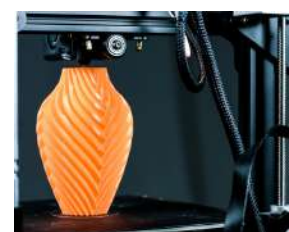
Although Big Data (data sets that are so big and complex that traditional data-processing application software are inadequate to deal with them) has a lot of buzz around it, we believe that in many ways it is still a relatively new and unexplored concept.

However, its potential for human analysis is already obvious.

This makes it a perfect and integral part of the planning and creation of smart cities.

- As populations grow and resources become scarcer, the efficient usage of these limited goods becomes more important
- Smart cities are a key factor in the consumption of materials and resources
- Built on -- and integrating with -- big data, the cities of the future are becoming a realization today

Architecture robots and 3D printers



Robots that build walls, and 3D printers that print entire formworks for ceiling slabs -- digital fabrication in architecture has developed rapidly in

the recent years. As part of the National Centre of Competence in Research (NCCR) Digital Fabrication, architects, robotics specialists, materials scientists, structural engineers and sustainability experts from ETH Zurich have teamed up with business partners to bring several new digital building technologies from the laboratory into practice.

Sustainability



- Sustainable architecture holds the key to an environmentally positive future
- Only by living more economically with our resources can we hope to protect our environment and climate
- The philosophy behind sustainable architecture is all about reducing waste
- This not only means physical waste but

- minimizing energy loss as well.
- By keeping the energy we consume within our buildings for as long as possible, we need less supply in the first place.

Artificial intelligence (AI)



Artificial intelligence isn't a new technology, but its impact is only starting to be felt, as businesses and individuals begin to understand the possibilities that AI can offer. AI is set to transform business like never before, creating new opportunities for entrepreneurs, business leaders and workers in every industry.

AI is quickly finding its way into our everyday lives. It may even soon be difficult to tell where it stops and humanity begins. What are the AI

trends in 2022, and what do the most recent advancements in AI mean for the years to come?

Large Language Models

The language model is the "brain" of language understanding. These AI models rely on machine learning to determine how phrases, sentences or paragraphs are related. It learns and understands the meaning of text or speech" and has already revolutionized how humans interact with machines. This is evident in the widespread use of AI assistants like Siri, Alexa and Cortana. Generative AI is an AI branch that focuses on generating content like writing text, generating images, text to image generation and making music. According to Gartner, Generative AI is a strategic AI technology trend for 2022. Generative AI may be used for several purposes, including artistic purposes, generating content for media outlets, personal creativity or education.

lot of human-labeled data, which is difficult and expensive to create. With larger AI models, we can now achieve the same or better results with just one or a few training examples. This will reduce the cost of artificial intelligence, and we should expect many business processes to be automated.

Natural language processing (NLP) is "the ability for a computer to understand the meaning of text or speech" and has already revolutionized how humans interact with machines. This is evident in the widespread use of AI assistants like Siri, Alexa and Cortana.

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