Quarterly News Bulletin
Volume 1 Issue 10
Shri Vithal Education And Research Institute's
Department of Computer Engineering...
COMPLIT
15th August, 2022

From page 3:
Artificial Intelligence

At present, there is an increasing demand for the convergence of AI and IoT to tackle programming issues in both scientific and engineering applications, such as high-performance data processing and analysis for intelligent decision-making of large-scale complex systems, and lightweight machine learning-based solutions in IoT-driven applications. Novel methods, models, algorithms, and tools are considered worth further research to improve AI and IoT driven solutions in terms of efficiency, scalability, security, and resilience, which significantly benefits the scientific and engineering programming community.

4.1 5G Technology

-Rasika Dharmadhikari (SYCO)

If there is one technology, the knowledge of which is still little, it is 5G. It is a new technology in 2022 for which companies and governments around the world have spent years preparing for the rollout of 5G technology. In several countries, this technology has already been rolled out and achieved a significant amount of success. Since 5G is currently in a nascent stage, it is available only to a limited extent and is also relatively expensive.

The number of compatible devices with 5G is also not appreciable, although most new mobile devices being released have 5G compatibility. 5G has a much greater capacity than the current 4G technology, with an average network speed of 100 Mbps and a peak speed of 20 Gbps. If you have multiple mobile devices in your home, 5G will probably connect to these devices and use them concurrently significantly easier.

When 5G technology was only in the development stage, 5G jobs were few, and most such jobs were allocated to employees within companies. However, companies have begun to hire network engineers over the past few months, specifically for jobs associated with their 5G networks.

When will 6G internet be available?

6G internet is expected to launch commercially in 2030. The technology makes greater use of the distributed radio access network (RAN) and the terahertz (THz) spectrum to increase capacity, lower latency and improve spectrum sharing.

From page 3: ## Virtual Reality & Augmented Reality

Augmented Reality Concept

Milgram and Kishino (1994), conceptualized the Virtual-Reality Continuum that takes into consideration four systems: real environment, augmented reality (AR), augmented virtuality, and virtual environment. AR can be defined a newer technological system in which virtual objects are added to the real world in real-time during the user's experience. Per Azuma et al. (2001) an AR system should: (1) combine real and virtual objects in a real environment; (2) run interactively and in real-time; (3) register real and virtual objects with each other. Furthermore, even if the AR experiences could seem different from VRs, the quality of AR experience could be considered similarly. Indeed, like in VR, feeling of presence, level of realism, and the degree of reality represent the main features that can be considered the indicators of the quality of AR experiences. Higher the experience is perceived as realistic, and there is congruence between the user's expectation and the interaction.

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Shri Vithal Education And Research Institute's
College of Engineering (Polytechnic), Pandharpur
SVERI
Department of Computer Engineering...
In touch with tomorrow.....
COMPLIT
THE COMPUTER LITERATURE...!
15th August, 2022

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Message From Principal

I feel very proud that our SVERI's College of Engineering (Polytechnic) has endeavored to come up with this "COMPLIT" quarterly news bulletin which explores the hidden potential of our students.

SVERI's Polytechnic is growing day by day and reaching the heights of success with the exceptional performance of our students. Recently, this college has been recognized as the best campus in Maharashtra and Goa.

"COMPLIT" is a platform through which our students explore their ideas, thoughts as well as skills. I feel delighted to say that our students have shown excellent performance in recent MSBTE examination as well as in extra-curricular activities, particularly sports.

I appreciate the students and faculty members who have taken much efforts to bring this "COMPLIT" quarterly news bulletin in existence.

I wish you all Happy Independence Day..!

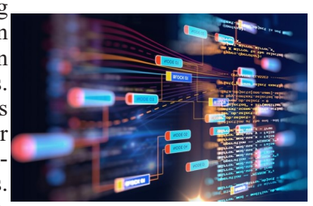
1.1 Data Science

- Ruhi Tendulkar (SYCO)

Recent technology in computer science is Data Science. For much of the initial part of the 21st century, data science was the next big thing. Data science has been around for much longer than just the past twenty months. For centuries, data analysis has been an essential task for companies, government, institutions, and departments. Analyzing data helps understand the efficiency of processes, conduct surveys of the workforce, and gauge people's general mood.

However, as of today, much of data analysis has turned digital. Data analysis is among the first jobs that computers are turned to for. In the early 2000s, data analysis was so prevalent that students were being taught introductory courses on the subject in school.

In the 2022s, data analysis is likely to blow up more than ever. With computational technology growing at a more excellent pace than ever, the data analysis capabilities in people's hands are likely to increase. Newer, faster data analysis algorithms and methods are likely to come up and be put into practice.



The benefit of having a career in data science, regardless of the domain your company works in, is that you are an essential part of the firm's overall business. The data that you produce and the interpretations that you provide are likely to be a necessary part of the business strategy of any company that you serve.

In retail and e-commerce, data science is widely used to determine campaigns' success and the general trend of various products' growth. This, in turn, helps develop strategies for the promotion of particular products or types of products. In health care, data informatics can be essential in recommending low-cost options and packages to patients and allowing doctors to choose the safest yet most effective treatments for them.

How to become a data scientist?

Learners can opt for Executive PG Programme in Data Science, a 13-month program by IIIT Bangalore.

1.2 Robotics And The Art Of Computer Science

- Komal Kokare (TYCO)

"Robotics is the branch of technology that deals with the design, construction, operation, and application of robots."

It is an exciting time to work in robotics. There are plenty of interesting challenges in designing machines that intelligently interact with both humans and their environment, and a range of techniques and insights from engineering, computer science, physics, biomechanics, psychology and other fields are available to help solve them.

Today, many types of robots are used to perform repetitive tasks. You hear about robotics everywhere, from using drones to deliver packages to robots manufacturing car parts. Robotics is a growing industry and it's not going to slow down anytime soon

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EDITORIAL

It gives me great pleasure to present the tenth issue of our College of Engineering (Polytechnic), Pandharpur newsletter "COMPLIT", which gives us the opportunity to focus the achievements in our college and new trends in Engineering field. We are thankful to all the students and faculties who have contributed during the preparation of this newsletter. We have tried our best and given positive efforts, expecting creative responses from everyone to continue the flow of knowledge through this quarterly newsletter.

-Ms. V.B.Maskar
-Miss. Ruhi Tendukar(SYCO)

Subject Toppers (SYCO)

Name Of Student	Subject	Marks
Kokare Komal	Java	68/70
Chavan Nisha	Software Engineering	67/70
Bhosale Snehal	DCC	67/70

2.2 *Third Year Toppers Of Summer 2022*

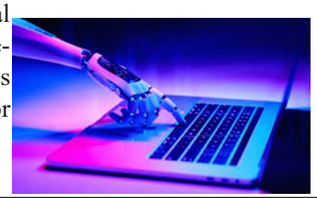
Name Of Student	Percentage
Salunkhe Saurabh Satish	95.31%
Kashid Nilesh Dhanaji	92.86%
Shinde Soham Dattatraya	92.00%
Kulkarni Shravani Gopalkrishna	91.49%

Subject Toppers (TYCO)

Name Of Student	Subject	Marks
Salunkhe Saurabh	EIT	68/70

From Page no 1:

All robots contain some level of computer programming code. A combination of computer programming and algorithms, a remotely controlled manipulator, action, processing and perception real-time sensors and an element of automation helps to inform what a robot or robotic system do.



Nearly 90% of the businesses worldwide plan to implement robotics into their infrastructure. And the numbers of jobs related to developing A.I.-related technologies, including robotics, are expected to grow from 20 to 50 million by 2030

2.1 Quantum Computing

Mr. Bhandare P.S.

In recent years Quantum Computing has attracted a great deal of attention in the scientific and technical communities. Interest in the field has expanded to include the popular press and various funding agencies. We discuss the origins of the idea of using quantum systems for computing. We then give an overview in recent developments in quantum hardware and software, as well as some potential applications for high energy physics. Quantum computing makes use of high-performance computers to address issues at the atomic and subatomic level. Quantum computers, unlike traditional computers, use quantum bits, also known as qubits, to execute calculations and store data. Quantum computers can now crunch data and solve problems considerably faster than they could before.

While big tech companies like Google and IBM are making progress in quantum computing, the field is still in its early stages. Banking, transportation, and agriculture are some of the other areas that could profit from quantum computing. Quantum computing could be used to locate the most effective truck delivery routes, establish the most efficient flight schedule for an airport, or quickly and cheaply produce novel treatments. Quantum computing holds promise for developing sustainable technology and solving environmental issues, according to scientists.

A master's or doctoral degree is commonly required for quantum computing jobs. Quantum computing workers can earn up to $160,000 per year, according to ZipRecruiter, with an average yearly pay of $96,900 as of May 2021. Many potential quantum computing jobs may not yet exist because quantum computing is a new computer science expertise.

College of Engineering (Polytechnic), Pandharpur

3.3 First Year Toppers Of Summer 2022

Name of Student	Percentage
Bagal Shital Madhukar	90.68%
Tendulkar Ruhi Ganesh	89.51%
Shinde Avadhut Changdev	89.47%

Subject Toppers

Name of Student	Subject	Marks
Nagane Tejashree	AMI	70/70
Jagtap Snehal	PCI	66/70
Jagtap Snehal	EEC	67/70

3.4 *Second Year Toppers Of Summer 2022*

Name Of Student	Percentage
Chavan Nisha Changdev	94.13%
Pawar Vaishnavi Arun	93.47%
Bhosale Snehal Satyawan	93.07%
Pathan Asim Jamir	92.13%
Thite Pratik Yogesh	92.00%
Bhingare Shraddha Dhanaji	91.07%

3.1 Artificial Intelligence Is Everywhere!

- Aishwarya Patekar (TYCO)

- Artificial Intelligence (AI) AI is the simulation of human intelligence for performing a number of processes by…
- Machine learning (ML) It is a subset of AI that provides systems with the ability to automatically learn and improve...
- Deep Learning It is a subset of a broader family of machine learning methods that are based on learning data…
- Autonomous Computing It is a computing model in which the system is self-handled, self-configured, and self-managed
- Augmented thinking

In recent years, there have been advances in artificial intelligence (AI) for a broad range of machine learning techniques, such as deep learning, reinforcement learning, and transfer learning. These are considered efficient and advanced tools to address non-trivial technical challenges in both science and engineering. AI-based solutions have been adopted to address challenges in many applications, for example smart energy systems, intelligent manufacturing, intelligent transportation, healthcare, and public safety, among others. In parallel, the Internet of Things (IoT) has experienced rapid development in the past decade. It deploys a massive number of smart terminals, including sensors, actuators, and establishes ubiquitous connections between smart devices and objects, with which one can perceive the world more clearly and control various systems more accurately. IoT also interconnects various separated intelligent systems into a vast smart world.

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3.2 Virtual Reality And Augmented Reality

- Rinky Kawade (TYCO)

Virtual Reality Concepts :

The concept of VR could be traced at the mid of 1960 when Ivan Sutherland in a pivotal manuscript attempted to describe VR as a window through which a user perceives the virtual world as if looked, felt, sounded real and in which the user could act realistically (Sutherland, 1965).

Since that time and in accordance with the application area, several definitions have been formulated: for example, Fuchs and Bishop (1992) defined VR as "real-time interactive graphics with 3D models, combined with a display technology that gives the user the immersion in the model world and direct manipulation" (Fuchs and Bishop, 1992); Gigante (1993) described VR as "The illusion of participation in a synthetic environment rather than external observation of such an environment.

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