



26th JAN 2023

Workshop

Department had organized 15 days workshop on **Android and Python Programming** for Third Year Student and **PHP** programming for Second Year Students in collaboration with “**TechWings International IT Solutions**”. The main motive while arranging such workshop is to bridge gap between Academics and Industry

Robotic Process Automation

Robotic process automation (RPA) is a form of business process automation technology based on meta-cal software robots (bots) or on artificial intelligence (AI)/digital workers. It is sometimes referred to as *software robotics* (not to be confused with robot software). In traditional workflow automation tools, a software developer produces a list of actions to automate a task and interface to the back end system using internal application programming interfaces (APIs) or dedicated scripting language. In contrast, RPA systems develop the action list by watching the user perform that task in the application's graphical user interface (GUI), and then perform the automation by repeating those tasks directly in the GUI. This can lower the barrier to the use of automation in products that might not otherwise feature APIs for this purpose. RPA tools have strong technical similarities to graphical user interface testing tools. These tools also automate interactions with the GUI, and often do so by repeating a set of demonstration actions performed by a user. RPA tools differ from such systems in that they allow data to be handled in and between multiple applications, for instance, receiving email containing an invoice, extracting the data, and then typing that into a bookkeeping system.

Pawan Wagh (TYIF)



Artificial Intelligence and Machine Learning

Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving. The ideal characteristic of artificial intelligence is its ability to rationalize and take actions that have the best chance of achieving a specific goal. A subset of artificial intelligence is machine learning (ML), which refers to the concept that computer programs can automatically learn from and adapt to new data without being assisted by humans. Deep learning techniques enable this automatic learning through the absorption of huge amounts of unstructured data such as text, images, or video. KEY TAKEAWAYS: Artificial intelligence (AI) refers to the simulation or approximation of human intelligence in machines. The goals of artificial intelligence include computer-enhanced learning, reasoning, and perception. healthcare.



Mrs. S. V. SARAF

Blockchain

A **blockchain** is a distributed ledger with growing lists of records (*blocks*) that are securely linked together via cryptographic hashes. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data (generally represented as a Merkle tree, where data nodes are represented by leaves). The timestamp proves that the transaction data existed when the block was created. Since each block contains information about the previous block, they effectively form a *chain* (compare linked list data structure), with each additional block linking to the ones before it. Consequently, blockchain transactions are irreversible in that, once they are recorded, the data in any given block cannot be altered retro-

actively without altering all subsequent blocks. Blockchains are typically managed by a peer-to-peer (P2P) computer network for use as a public distributed ledger, where nodes collectively adhere to a consensus algorithm protocol to add and validate new transaction blocks.

-Snehal Kadam (SYIF)



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Department Vision

To be recognized one among the premier Information Technology department in Maharashtra to empower the capabilities of students in education with professional ethics enabling students to reach higher goals in the field.

Department Mission

- To impart value based Technical Education in Information Technology.
- To support for technical knowledge of students in the field of Information Technology.
- To make the students efficient in various skill Sets in Information Technology.
- To encourage students for life-long learning.

Message of HOD

It is our pleasure to present News Letter “**TANTRA**” of our department. This news letter is one of the ways in which we can disseminate the information about our department. The past semester was full of various activities by the students and faculty in Academic, Co-curricular and Extra-curricular activities. As you read through pages, you will realize that we have succeeded in academics as well as in different co-curricular activities.

-Mr. G.S. MISAL



5G Technology

In telecommunications, 5G is the fifth-generation technology standard for broadband cellular networks, which cellular phone companies began deploying worldwide in 2019, and is the planned successor to the 4G networks which provide connectivity to most current cellphones. 5G networks are predicted to have more than 1.7 billion subscribers and account for 25% of the worldwide mobile technology market by 2025, according to the GSM Association and Statista. Like its predecessors, 5G networks are cellular networks, in which the service area is divided into small geographical areas as called *cells*. All 5G wireless devices in a cell are connected to the Internet and telephone network by radio waves through a local antenna in the cell. The new networks have higher download speeds, eventually up to 10 gigabits per second (Gbit/s) In addition to 5G being faster than existing networks, 5G has higher bandwidth and can thus connect more different devices, improving the quality of Internet services in crowded areas.^[4] Due to the increased bandwidth, it is expected the networks will increasingly be used as general internet service providers (ISPs) for laptops and desktop computers, competing with existing ISPs such as cable internet, and also will make possible new applications in internet-of-things (IoT) and machine-to-machine areas. Cell-phones with 4G capability alone are not able to use the 5G networks.



-Bhushan Mote (TYIF)

Quantum computing

Quantum computing is a type of computation whose operations can harness the phenomena of quantum mechanics, such as superposition, interference, and entanglement. Devices that perform quantum computations are known as **quantum computers**. Though current quantum computers may be too small to outperform usual (classical) computers for practical applications, larger realizations are believed to be capable of solving certain computational problems, such as integer factorization (which underlies RSA encryption), substantially faster than classical computers. The study of quantum computing is a subfield of quantum information science. There are several models of quantum computation with the most widely used being quantum circuits. Other models include the quantum Turing machine, quantum annealing, and adiabatic quantum computation. Most models are based on the quantum bit, or "qubit", which is somewhat analogous to the bit in classical computation. A qubit can be in a 1 or 0 quantum state, or in a superposition of the 1 and 0 states. When it is measured, however, it is always 0 or 1; the probability of either outcome depends on the qubit's quantum state immediately prior to measurement. One model that does not use qubits is continuous variable quantum computation. Efforts towards building a physical quantum computer focus on technologies such as transmons, ion traps and topological quantum computers, which aim to create high-quality qubits.



Vaishnavi Koli (TY-IF)

Internet of Things (IoT)

The **Internet of things (IoT)** describes physical objects (or groups of such objects) with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks. Internet of things has been considered a misnomer because devices do not need to be connected to the public internet, they only need to be connected to a network and be individually addressable. The field has evolved due to the convergence of multiple technologies, including ubiquitous computing, commodity sensors, increasingly powerful embedded systems, as well as machine learning. Traditional fields of embedded systems, wireless sensor networks, control systems, automation (including home and building automation), independently and collectively enable the Internet of things. In the consumer market, IoT technology is most synonymous with products pertaining to the concept of the "smart home", including devices and appliances (such as lighting fixtures, thermostats, home security systems, cameras, and other home appliances) that support one or more common ecosystems, and can be controlled via devices associated with that ecosystem, such as smartphones and smart speakers. IoT is also used in healthcare systems. There are a number of concerns about the risks in the growth of IoT technologies and products, especially in the areas of privacy and security, and consequently, industry and governmental moves to address these concerns have begun, including the development of international and local standards, guidelines, and regulatory frameworks



-Shivraj Yadav(SYIF)

FACULTY PROFILE

SR. NO	STAFF NAME	DESIGNATION
1.	Mr. G. S. Misal	HOD
2.	Mrs. R. K. Malgonde	Lecturer
3.	Ms. T. B. Lokhande	Lecturer
4..	Mrs. S. V. Saraf	Lecturer
5.	Ms.V.R.Muttagi	Lecturer
6.	Mrs. H. N. Vhawal	Lecturer
7.	Mrs. S. A. Parkhe	Lecturer
8.	Mr. A. A. Janarao	Lecturer

DEPARTMENTAL RESULT FOR A.Y. 2022-23

Sr. No.	Name of Students	Class	Percentage	Rank
1	Pranali Mane	F.Y.	96.13	First
2	Poojari Sharvari	F.Y.	94.46	Second
3	Babar Shivani	F.Y.	92.80	Third
4	Shivraj Yadav	S.Y.	90.13	First
5	Snehal Kadam	S.Y.	88.49	Second
6	Sarde Pruthviraj	S.Y.	86.13	Third
7	Chavan Avdhoot	T.Y.	95.50	First
8	Vasekar Gayatri	T.Y.	94.00	Second
9	Shendage Pratik	T.Y.	92.75	Third

STUDENT ACHIEVEMENTS FOR A.Y.2022-23

NAME OF STUDENT	YEAR	RANK	SPORT
Bhushan Mote	3rd Year	1st	Badminton

YOU CAN HACK BOOK PUBLISHED

This question is often asked of us, but we do not condone hacking for illegal purposes and will not provide training or help on how to hack. While some forms of hacking are not illegal, like ethical hacking, many people want to hack for illegal reasons, known as black hat hacking. Because ethical hacking and illegal hacking involve mainly the same coding, cracking, and networking expertise, Computer Hope cannot help you with learning how to hack. Hacking a computer to view or steal protected information does not resolve anything and only



-Sarde Pruthviraj(SYIF)

causes further issues, such as being fined or sent to prison. Instead of doing anything illegal, learn an alternative operating system (e.g., Linux), set up computer networks, read security news, and learn a programming language. If you've done this and still want to hack, try hacking your home network. That way, you don't have to worry about get Place - Commissioners Office (Police Headquarter) .Solapur

INDUSTRIAL VISIT

SR. NO	DATE	COMPANY NAME	VISIT TIME
1.	3/10/22	Acmy Technology Pvt Ltd,Satara	11:00 am to 1:00 pm
2.	3/10/22	Easy Bill Software Pvt Ltd , Satara	3:00 pm to 5:00 pm
3.	4/10/22	Wallstar Technology Pvt Ltd, Kolhapur	11:00 am to 1:00 pm
4.	4/10/22	iGap Technology Pvt Ltd, Kolhapur	3:00 pm to 5:00 pm

FACULTY ACHIEVMENT

Faculty	Workshop
Mr.G.S.Misal	Industry 4.0
Mrs.S.V.Saraf	Industry Consulting
Mrs. R.K. Malgonde	High Speed Digital System
Ms.V.R.Muttagi	R-Programming

EDITORIAL

Its our pleasure to present this issue of TANTRA with new design. We are thankful to all faculty members and student friends for their co-operation. We will continue the journey of learning and implementing technologies in future also.

Thank you all...!

Mr. G.S.Misal

Mrs.S.V.Saraf