



MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

“TECH SAGA”

A News Letter of CSE & IT Department



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Everyone should know how to
program a computer, because it
teaches you how to think!

- Steve Jobs



PUBLICATIONS IN NATIONAL CONFERENCE

❖ Conference Publication:

1. Rajeev Goyal, Arvind K Upadhyay, Sanjiv Sharma, Pankaj K Mishra, “Analysis of Predicting Trust in Complex Online Social Networks”, National Conference on “Smart Materials: Energy and Environment for Smart Cities, ScienceDirect, Elsevier, Materials Today: Proceedings 29 (2020) 573–580, (Scopus) doi:10.1016/j.matpr.2020.07.316
2. Mohd Aijaj Khan, Manish Dixit, “Discovering Exoplanets in Deep Space using Deep Learning Algorithms”, International Conference on Computational Intelligence and Communication Networks (CICN): Proceedings 25-26 September 2020, (IEEE) DOI: 10.1109/CICN49253.2020.9242636

ACTIVITIES ORGANIZED

❖ ONLINE WORKSHOP BY GIRLS GRIEVANCE CELL

Online workshop on "Gender Equality & Women Safety" on 10.07.2020 by Girls Grievance Cell organized by Dr. Anshu Chaturvedi.

FACULTY ACCOLADES

- ❖ **Dr. Manish Dixit** , A session chair in 12th International Conference on **Computational Intelligence and Communication Networks (CICN)**, IEEE, Bhimtal India, 25-26 September ,2020
- ❖ **Dr. Rajni Ranjan Singh** delivered expert lecture in Faculty Development Programme on "**Cyber Security** " organized by Oriental Institute of Science and Technology, Bhopal under AICTE Training and Learning (ATAL) Academy Program on 28 August ,2020.
- ❖ **Dr. Rajni Ranjan Singh** as Resource Person in a two days collaborative online workshop with Directorate of Technical Education, Madhya Pradesh conducted on “Digital Teaching Learning: Tools & practices” in July 2020.
- ❖ **Dr. Sanjiv Sharma** delivered invited talk and guest or expert lecture on “**Trends and Challenges in Data Mining**” on 13th July 2020 organized by Computer Science & Engineering, Vadodara, Gujarat.
- ❖ **Mr. Arun Kumar** delivered expert lecture on "**Machine Learning using Python**" in workshop on Data Analytics at SKIT, Jaipur, Rajasthan from 23 - 25 August, 2020
- ❖ **Mr. Mir Shahnawaz Ahmad** delivered expert lecture on "**Predictive Analysis using Python**" in Five Days FDP on "**Data Science**" at Arya College of Engineering & Research Centre, Jaipur, Rajasthan, during 12 - 16 September, 2020.
- ❖ **Dr. Rajni Ranjan Singh** delivered expert lecture in In-house interactive virtual workshop on "**Digital Teaching-Learning & Evaluation**" under IQAC and TEQIP-III conducted on Saturday, 25th July 2020.

FACULTY OUTREACH

FDP ATTENDED:

- ❖ **Prof. Jaimala Jha** , attended one week FDP on “**Medical Image Processing and Deep learning**” Organized by Panimalar Institute of Technology (AICTE Atal portal FDP).
- ❖ **Prof. Khushboo Agrawal** attended one-week AICTE Training and Learning (ATAL) Academy FDP on “**Data Science**” during 07-11 September ,2020 at School of Information Technology, Rajiv Gandhi Proudhyogiki Vishwavidyalaya.

- ❖ **Prof. Khushboo Agrawal** attended one-week AICTE Training and Learning (ATAL) Academy FDP on **Data Science** during 21-25 September, 2020 at National Institute of Technology , Karnataka
- ❖ **Prof. Abhilash Sonkar** attended Industrial Training Program on **“Future scope of engineering in global development”** organized by vellar college of engineering and technology, erode, Tamilnadu in association with pantech solutions, Chennai, during 27- 31 July, 2020.
- ❖ **Prof. Mir Shahnawaz Ahmad** attended One-week Online FDP on **“Soft Computing Techniques (SCT-2020)”** during 25-30 July, 2020 at NIT , Srinagar.
- ❖ **Dr. Sanjiv Sharma** attended Five-day Virtual International Faculty Development Program On **“Research Orientations in Engineering with Effective Outcomes”** organized by Department of Electrical and Electronics Engineering, KIET Group of Institutions, Delhi-NCR, Ghaziabad, India in the association of Ministry of Education Maldives, King Khalid University Saudi Arabia, Wolaita Sodo University Ethiopia, and Sunway University, Malaysia scheduled held from 26-30 July , 2020.
- ❖ **Dr. Sanjiv Sharma** Attended five days online FDP on **“Research Perspective in Futuristic Computing Technologies”** held from 6 -10 July ,2020 organized by Department of Computer Science & Engineering, School of Engineering, Dayananda Sagar University, Bengaluru.
- ❖ **Dr. Sanjiv Sharma** Attended twelve days FDP on **“Online Teaching- Learning and Research Methodology”** from July 18-29 July, 2020 organized by Govt. P. G. College, Bilaspur Rampur ,Uttar Pradesh.
- ❖ **Dr. Sanjiv Sharma** Attended Online One Week International FDP on **“Post Pandemic Scenario Building using AI, ML and Optimization Techniques”** held from 10 - 14 July , 2020 organized by KDK College of Engineering, Nagpur
- ❖ **Dr. Sanjiv Sharma** Attended One Week DTE Approved Online Faculty Development Program on **“Accreditation to Engineering & Professional Ethics (AEPE - 2020)”** from 08 - 12 July , 2020 jointly organized by Applied Mechanics Department & Electrical Engineering Department, Government College of Engineering, Nagpur.
- ❖ **Prof. Abhilash Sonkar** attended one-week Atal FDP on **“Data Sciences”** from 7 - 11 September , 2020 at National Institute of Technology, Andhra Pradesh.
- ❖ **Prof. Abhilash Sonkar** attended one-week Atal FDP on **“Block Chain”** from 31st August - 4th September , 2020 at Mahandra engineering college.
- ❖ **Prof. Namrata Agrawal** attended **“Wipro Certified Faculty Program”** conducted by TalentNext during 31st August – 18th September, 2020

CLUB ACTIVITIES

- ❖ Under AASF student forum a workshop conducted on “**Fundamentals of Aptitude**” on 19 September 2020 with online quiz event organized by **Prof. Jaimala Jha**.
- ❖ Under scrabble club “**Abhiprray**” an online quiz event conducted based on general awareness on 15 September 2020 organized by **Prof. Jaimala Jha & Prof. Namrata Agrawal**.
- ❖ IOT club organized two-day online workshop on 08-09 August, 2020 organized by **Prof. Khushboo Agrawal**.
- ❖ IOT club organized one day online workshop with the collaboration with AICRA on 30 August 2020 organized by **Prof. Khushboo Agrawal**.

ACTIVITIES ORGANIZED UNDER NATIONAL SCHEME SERVICE

- ❖ Organized online COVID-19 Quiz cum Awareness Program organized by Prof. Khushboo Agrawal

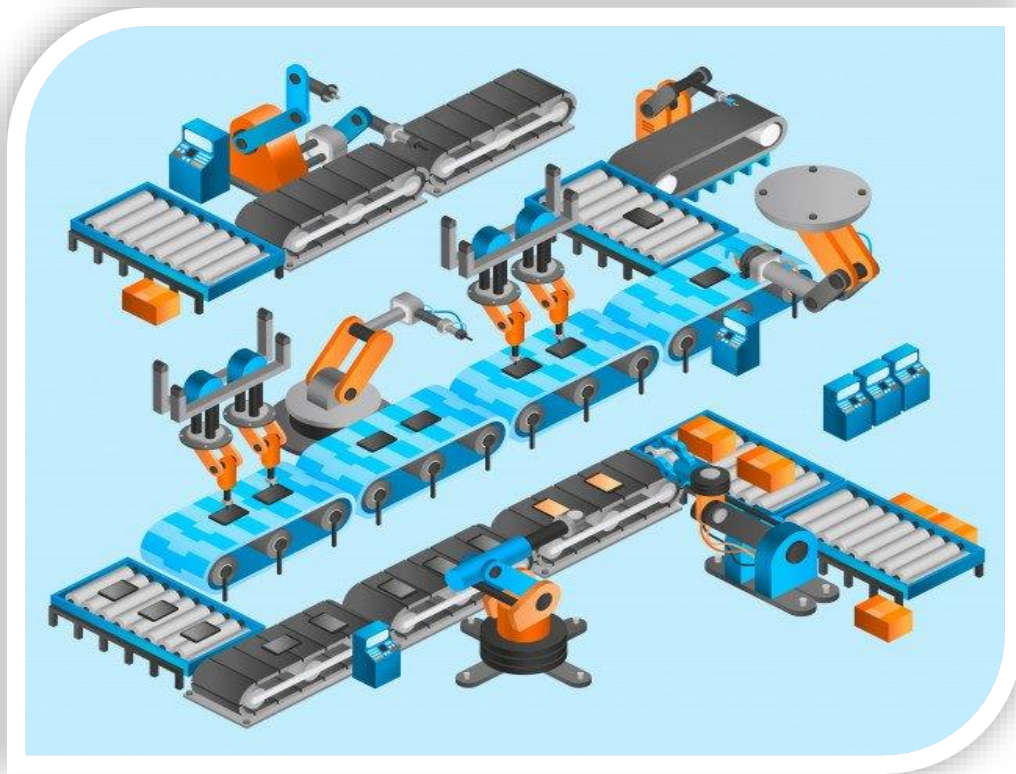
LATEST COMPUTER TECHNOLOGIES

Hyperautomation:

Hyperautomation refers to the use of advanced technologies, like artificial intelligence (AI), machine learning (ML), and robotic process automation (RPA), to automate tasks that were once completed by humans. Hyperautomation not only refers to the tasks and processes that can be automated, but also the level of automation. It is often referred to as the next major phase of digital transformation. intertwined. Yet the issues and challenges associated with IoT need to be considered and addressed in order for the potential benefits for individuals, society, and the economy to be realized.

It is important to note that hyperautomation is not meant to entirely replace humans. Rather, through automation, humans are freed from repetitive and low-value tasks to focus on ones that are of a higher-value to the organization. Together, automation and human involvement helps organizations to provide superior customer experiences

while reducing operational costs and boosting profitability.



The ability to include humans in the digitization process is a key component of hyperautomation. The first wave of automation technologies largely relied on robotic process automation (RPA). RPA involves the use of bots to mimic repetitive human tasks. These processes are rule-based and utilize structured data to complete actions. Unlike artificial intelligence which seeks to simulate the human intellect, RPA focuses solely on human actions. With hyperautomation, digital workers operate alongside humans to deliver unmatched efficiency.

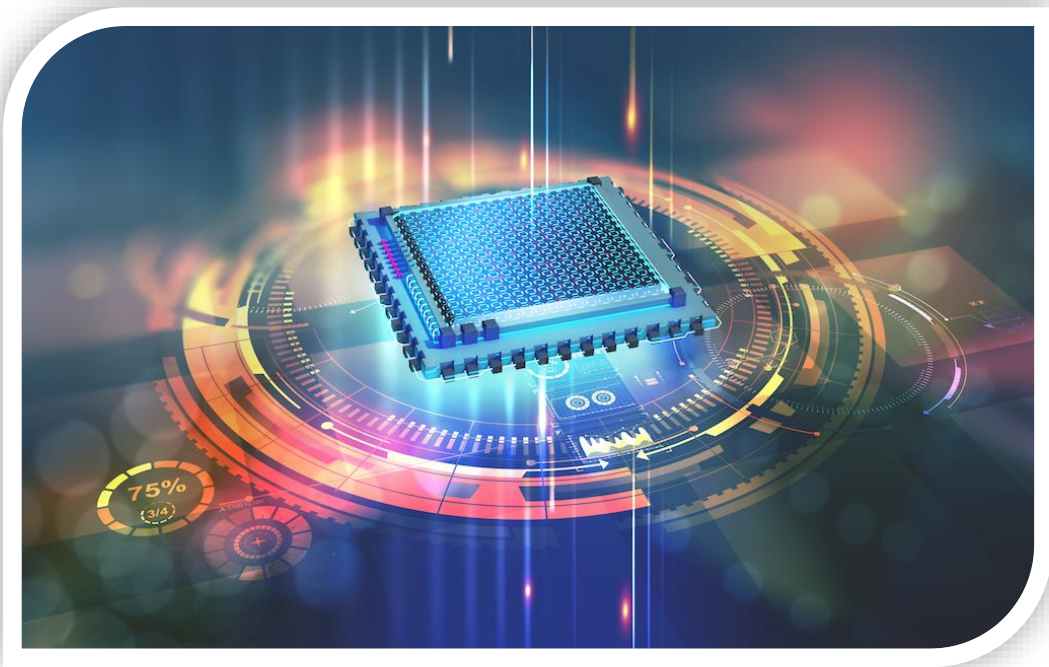
By using a combination of automation technologies, hyperautomation can overcome some of the limitations of approaches that rely on a single automation tool. This allows organizations to move beyond the confines of individual processes and automate nearly any tedious and scalable task. Automation, however, requires careful planning and implementation. Organizations need to understand how digital technologies will fit into their existing workflows, as well as what roles they will play in new processes. Simply introducing automation into a business process without appreciating the role that it will play, or automating a process that is already broken, can have major consequences at the organizational level.

Another major attribute for hyperautomation is integration. To achieve scalability in operations, various automation technologies must work together seamlessly. Careful planning, implementation, and improvement of processes is accomplished through intelligent business process management (BPM). For these reasons, BPM is a core component of hyperautomation.

Quantum Computing

Next remarkable technology trend is quantum computing, which is a form of computing that takes advantage of quantum phenomena like superposition and quantum entanglement. This amazing technology trend is also involved in preventing the spread of the coronavirus, and to develop potential vaccines, thanks to its ability to easily query, monitor, analyze and act on data, regardless of the source. Another field where quantum computing is finding applications is banking and finance, to manage credit risk, for high frequency trading and fraud detection.

Quantum computers are now a multitude times faster than regular computers and huge brands like Splunk, Honeywell, Microsoft, AWS, Google and many others are now involved in making innovations in the field of Quantum Computing. The revenues for the global quantum computing market are projected to surpass \$2.5 billion by 2029. And to make a mark in this new trending technology, you need to have experience with quantum mechanics, linear algebra, probability, information theory, and machine learning.



A quantum computer harnesses some of the almost-mystical phenomena of quantum mechanics to deliver huge leaps forward in processing power. Quantum machines promise to outstrip even the most capable of today's and tomorrow's supercomputers. They won't wipe out conventional computers, though. Using a classical machine will still be the easiest and most economical solution for tackling most problems. But quantum computers promise to power exciting advances in various fields, from materials science to pharmaceuticals research. Companies are already experimenting with them to develop things like lighter and more powerful batteries for electric cars, and to help create novel drugs.

The secret to a quantum computer's power lies in its ability to generate and manipulate quantum bits, or qubits. Today's computers use bits—a stream of electrical or optical pulses representing 1s or 0s. Everything from your tweets and e-mails to your iTunes songs and YouTube videos are essentially long strings of these binary digits. Quantum computers, on the other hand, use qubits, which are typically subatomic particles such as electrons or photons. Generating and managing qubits is a scientific and engineering challenge. Some companies, such as IBM, Google, and Rigetti Computing, use superconducting circuits cooled to temperatures colder than deep space. Others, like IonQ, trap individual atoms in electromagnetic fields on a silicon chip in ultra-high-vacuum chambers. In both cases, the goal is to isolate the qubits in a controlled quantum state.