SHRI RAM GROUP

JABALPUR (MP)

ESTD 2001

Ranked 1st Best Private T-School in Mahakoshal

BY DQ-CMR Survey

CSE PULSE

WELCOME

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

NEWSLETTER

2021-22

Computer Science & Engineering Department at Shri Ram Institute of Technology was established in the year 2001 with an intake of 60 students for B.Tech (CSE). The current intake in Computer Science & Engineering Department for B.Tech (CSE) is 120. In addition to graduate course, the department also offers Post Graduate course

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The department aims to be the Centre of Excellence in providing international standard education and consultation in the field of computer science and thus targets to produce globally competent and self disciplined computer engineers. There has been a rapid growth in the infrastructure of the department since 2001 with no looking back. Today, the department boasts of one of the best computing facilities in the region. The dedicated team of CSE Department works with a sense of responsibility and dedication to excel so as to achieve success in this era of technology and advancement with highly qualified and experienced faculty using cutting edge technical assistance and techniques, it has emerged at the forefront among all the departments with high performing students. In the recent years, the Department has taken the lead in the digitization of the course structure and curriculum of the College

The department has produced quality computer professionals and feels proud of its alumni employed in public, private and educational sectors, bringing fame to us. Apart from the FDPs, the Department of Computer Science organizes Orientation Programmes, Departmental Fests, Student Awareness Programmes, Academic Conferences and many other events on a regular basis for overall development of the students. The students are also encouraged to participate in academic and non-academic inter-college and intra-college activities.

The department offers a comprehensive curriculum from introductory level courses to seminars and projects focusing on critical research areas. The objective is to provide knowledge of modern computing systems as well as sound theoretical background to meet the evolving needs of students and instill ethical values in them. The department also aims at establishing a strong relationship with the industry so as to bridge the gap between the academic and corporate sector. The department aims at cultivating qualities like leadership, teamwork, self-confidence and good communication skills among its students.

FROM THE HOD's DESK

The Department of Computer Science & Engineering is at the forefront of turning out software engineers with a high degree of technical expertise. It fosters the innovation and breadth of vision necessary to excel in the blooming software industry.

The department mainly equips its students with undergraduate & postgraduate level expertise and appropriate skills in the field of computer science. Students at CSE are nurtured to become best software professionals or Entrepreneurs in their own innovative way. The prime objective of the department endeavors is to produce confident professionals tuned to real time working environment. The department offers excellent academic environment with a team of highly qualified faculty members to inspire the students to develop their technical skills and inculcate the spirit of team work in them.

The experienced faculty exposes budding computer engineers to a rigorous and exhaustive curriculum designed to bring out the best in them and to keep them in touch with the latest state of the art technology. Besides imparting theoretical knowledge, the emphasis is on hands-on training and overall development of the individual's personality. Equal importance is given to the classroom learning which is meant primarily for conceptual inputs. The teaching program has been devised keeping in view the need of a close interaction with the industry.

With these preface I am sure and confident that the students of the department will imbibe these and work hard to excel.

Whether you are a student, parent, alum, a corporate partner, or a colleague, we want to hear from you. Your comments and suggestions will help us to move next level and provide us with encouragement and excellence.

HAVE A NICE STAY HERE & ACHIEVE THE BEST

HOD
CSE Department

VISION

Creating ethical leaders in the field of computational sciences by quality vocational education with an emphasis on comprehensive learning and excellence.

&

MISSION

M1. To provide qualitative education and generate new knowledge through effective teaching learning methodologies, resulting in careers as computer and IT professionals in the widely diversified fields of business, government and academia.

M2. To transform lives of the students by imparting ethical values, sustainable skills, creativity, and uniqueness in them, allowing them to become entrepreneurs and start businesses.

M3. To encourage students to learn about emerging technologies in order to continue higher education and lifelong learning

Near ITI, Madhotal, Jabalpur, M.P. Mo. 9755042292, 9755042292 info@sritgroup.net

SHRI RAM GROUP

JABALPUR (MP)

ESTD 2001

CSE DEPARTMENT

The Sucess Stories

Editor's Desk

Education is the key to sucess in life and teachers make a lasting impact in the lives of their students. The teachers are the heart of the educational system. I am happy to cover those wonderful moments created in our department with an academic importance..

- INTERNAL SMART INDIA HACKATHON (SIH)
- FAREWELL PARTY
- WOMEN'S DAY CELEBRATION
- CAMPUS PLACEMENTS
- ALUMINI VISITS
- SQL CERTIFICATION RECORD
- ACADEMIC ACHIEVEMENTS

Smart India Hackathon

Internal Smart India Hackathon

SIH is the World's Biggest Hackathon and Open Innovation model, an initiative by Ministry of HRD. Smart India Hackathon 2022 is a nationwide initiative to provide students a platform to solve some of the pressing problems we face in our daily lives. Students across India compete creatively to solve problems of Ministries, Departments and Industries to give solutions Harness. Talented youngsters from all over the country offer out-of-the- box solutions to problems .To Inculcate a culture of product innovation and a mindset of problem solving. Out of the total 32 teams participated 10 teams were finalized and 5 are in a waiting queue. Department of CSE & IT , Shri Ram Institute of Technology, Jabalpur (M.P) conducted Internal Hackathon .

Problem Statement Themes:
1. Smart Communication
2. Healthcare & Biomedical devices
3. Agriculture & Rural Development
4. Smart Vehicles
5. Food Technology.
6. Robotics and Drones
7. Waste management
8. Clean water
9.Renewable Energy
10. Security & Surveillance
11. Miscellaneous

Jury Members:

1. Mr. Kailash Bhati
Mr. Kailash Bhati is a Secretary of Jabalpur Smart City at Jabalpur
2. Mr. Vivek Singh Rajpoot
Mr. Vlvek Singh Rajpoot is a Placement Officerat Shri Ram Group Of Institutions, Jabalpur
3. Mr.Sandeep Sinha
Mr. Sandeep Sinha is a Senior Technical Architect at Tech Mahindra

SHRI RAM GROUP

Department of Computer Science & Engineering

FAREWELL PARTY

Dhoom Machale....

Organised By CSE Department

Solo Dance, Group Dance, Solo Ramp Walk,
Couple Ramp Walk, Dancing, Singing

Shri Ram Group

Women's Day Celebration

PARTY To Salute

CAMPUS PLACEMENTS

Highest Pacakge and Placements

ALUMNI MEET

OUR BELOVED PASSOUT STUDENTS

An Eve for Alumnus

I appreciate this idea of Alumni Meet, which creates a special bonding between the students who have passed out & who have established themselves already in the big, outside world. I believe an Alumni Meet is a perfect platform for you all to meet your peers and teachers and revive the contacts
It was a pleasure to see alumni gather together in such a big number coming from different parts of the World. The day was filled with chirping voices from you all recalling the memories of your good old memorable days. It was an agglomeration of alumni from diverse background and was blessing for the students, faculty, and staff looking at your current position and working status.

SQL Certifications

Microsoft SQL Server

400+

spends an average user on their gadget

Students certified in SQL

SQL Server

CERTIFICATION

Shri Ram Group provides excellent infrastructure to students for succeeding in various platforms.

Ready for Industry

ACHIEVEMENTS

शिक्षा के माध्यम से समाज को सशक्त बनाना मेरा उद्देश्य

श्री रामेन्द्र करसोलिया
संस्थापक एवं प्रबंध निदेशक
श्री राम कॉमसॉफ्ट प्राइवेट लिमिटेड

श्री रामेन्द्र करसोलिया (जन्म 1986) श्री राम कॉमसॉफ्ट प्राइवेट लिमिटेड के संस्थापक और प्रबंध निदेशक हैं। वह एक गतिशील और महत्वाकांक्षी व्यक्ति है जो संगठन का नेतृत्व और प्रबंधन करते है। एक संस्थापक के रूप में उनकी असाधारण दृष्टि ने कंपनी को विश्व स्तर पर नेतृत्व की स्थिति प्राप्त करने की दिशा में आगे बढ़ाया है। वह कंपनी के फोकस को आकार देने और नवाचार और सतत विकास के सिद्धांतों के आधार पर एक अद्वितीय साझेदारी मॉडल के निर्माण में सहापक रहे हैं।

श्री रामेन्द्र एक सफल व्यवसायी और उद्यमी है, जो सम्मानित बहु-राष्ट्रीय कंपनियों को आईटी और आईटी सक्षम सेवाएं प्रदान करते है। कंपनियों में One97 Communication, Paytm, Paytm Money, Paytm Mall, BRC, Delteq आदि शामिल है । वह ग्राहकों की संतुष्टि, नैतिक और पारदर्शी व्यवसाय प्रथाओं और तकनीकी परिवर्तन के लिए उपयुक्त प्रतिक्रिया में विश्वास करते है। उसके पास एक मजबूत कार्य नैतिकता है और अपरिहार्य चुनौतियों का सम्मान और निपटने की अभूतपूर्व क्षमता है। नई तकनीकों को सीखना और उसे अपनाने की उनकी क्षमता, उनकी दूरदृष्टिता उत्कृष्टतम है, जो उनकी कंपनी को सफल बनाने में महत्वपूर्ण भूमिका निभाती है।

रामेन्द्र एक अग्रणी शैक्षिक संस्थान, श्री राम ग्रुप जबलपुर के उपाध्यक्ष भी हैं, जिसे 2001 में स्थापित किया गया था। वह श्री राम समूह के माध्यम से विद्यार्थियों को उत्कृष्ट शिक्षा एवं रोजगार दिलवाने के लिए निरंतर प्रयासरत है।

उन्होंने हाई-टेक लैब स्थापित करने, उद्योगों के साथ मजबूत संपर्क स्थापित करने और छात्रों के लिए रोजगार के अवसर पैदा करने जैसी अपनी अभिनव पहल के माध्यम से उच्च विकास के पथ पर समूह को आगे बढ़ाया है। उनका मानना है कि शिक्षा एक सशक्त, समाज की रीढ़ बनती है। उनका यह विचार एक बहुत आवश्यक सामाजिक सुधार लाता हैं। उन्हें दृढ़ता से लगता है कि ज्ञान की उपलब्धि कार्य को करने पर होती है न कि केवल कार्य के बारे में जानने में। जब तक शिक्षा वास्तविक जीवन से संबंधित न हो और सीखने वाले को प्रेरित न करें, तो पूरी प्रक्रिया सतही ही रहती है।

रामेन्द्र को दृढ़ता से लगता है कि शिक्षा वह आधार है, जिसके द्वारा आज के समय में किसी राष्ट्र की उन्नति को मापा जाता है। आज समाज, शिक्षा और उद्योग को एक जिम्मेदार, प्रगतिशील और कुशल नागरिक बनाने के लिए एक साथ खड़े होने और अपनी प्रतिबद्धता, उत्साह और विशेषज्ञता को साझा करने की आवश्यकता है । इसी भावना को ध्यान में रखते हुए, रामेंद्र पिछले कई वर्षों से छात्रों को नैतिक, मूल्यों और पारस्परिक सम्मान पर प्रभाव डालने वाले वातावरण में सर्वांगीण, प्रासंगिक और व्यापक शिक्षा प्रदान करने पर ध्यान केंद्रित कर रहे हैं।

उनके मार्गदर्शन में, संस्थान को कई राष्ट्रीय और अंतर्राष्ट्रीय पुरस्कार मिले हैं।

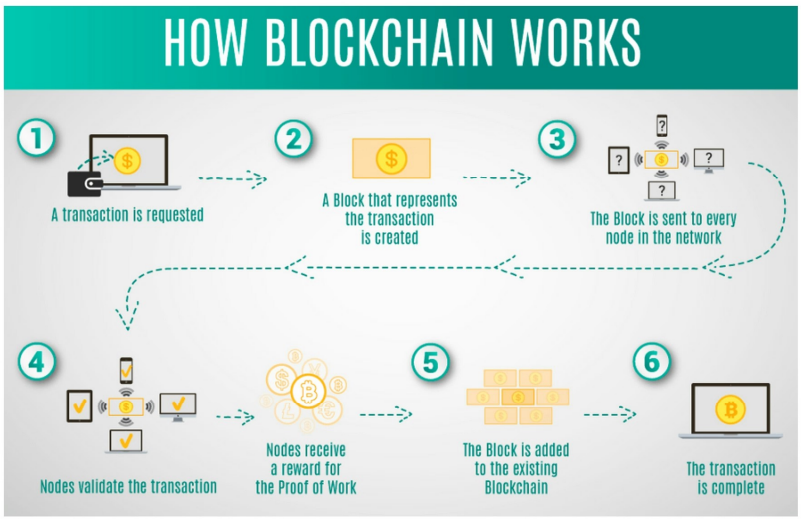
- **50 Most Influential Education Entrepreneurs of India award by WORLD EDUCATION CONGRESS.**
- **Edupreneurs award for Best Learning Ecosystem by R-ENGINEERING INDIA.**
- **Top 51 Prominent College recognized by India Today.**
- **Best Academic and Best Placement award for the year 2018-19 by. Hon. Chief Minister of MP Shri Kamal Nath ji.**

रामेंद्र को सुदूरवर्ती आबादी और समाज के समस्त वर्गों के सर्वांगीण विकास में गहरी प्रतिबद्धता है। वह सामाजिक और आर्थिक रूप से वंचित लोगों का भरपूर समर्थन करते है। विशेष रूप से बच्चों को बेहतर तरीके से समाज में भाग लेने के लिए अपनी जरूरतों को पहचानने और पूरा करने में सक्षम बनाना आपका उद्देश्य है।

Department of Computer Science & Engineering

ARTICLE ON:
Blockchain Technology & its importance in todays world

Blockchain has numerous benefits such as decentralisation, persistency, anonymity and auditability. There is a wide spectrum of blockchain applications ranging from cryptocurrency, financial services, risk management, internet of things (IoT) to public and social services. Although a number of studies focus on using the blockchain technology in various application aspects, there is no comprehensive survey on the blockchain technology in both technological and application perspectives. To fill this gap, we conduct a comprehensive survey on the blockchain technology. In particular, this paper gives the blockchain taxonomy, introduces typical blockchain consensus algorithms, reviews blockchain applications and discusses technical challenges as well as recent advances in tackling the challenges. Moreover, this paper also points out the future directions in the blockchain technology.



Blockchain is the underlying technology of a number of digital cryptocurrencies. Blockchain is a chain of blocks that store information with digital signatures in a decentralized and distributed network. The features of blockchain, including decentralization, immutability, transparency and auditability, make transactions more secure and tamper proof. Apart from cryptocurrency, blockchain technology can be used in financial and social services, risk management, healthcare facilities, and so on. A number of research studies focus on the opportunity that blockchain provides in various application domains. This paper presents a comparative study of the tradeoffs of blockchain and also explains the taxonomy and architecture of blockchain, provides a comparison among different consensus mechanisms and discusses challenges, including scalability, privacy, interoperability, energy consumption and regulatory issues. In addition, this paper also notes the future scope of blockchain technology.

By.Ruchika Jaiswal
(Student - 5th Sem)

ARTICLE ON:
Internet of Things (IoT): Opportunities, issues and challenges towards a smart and sustainable future

The rapid development and implementation of smart and IoT (Internet of Things) based technologies have allowed for various possibilities in technological advancements for different aspects of life. The main goal of IoT technologies is to simplify processes in different fields, to ensure a better efficiency of systems (technologies or specific processes) and finally to improve life quality. Sustainability has become a key issue for population where the dynamic development of IoT technologies is bringing different useful benefits, but this fast development must be carefully monitored and evaluated from an environmental point of view to limit the presence of harmful impacts and ensure the smart utilization of limited global resources. Significant research efforts are needed in the previous sense to carefully investigate the pros and cons of IoT technologies.
The focus of the conference was directed towards key conference tracks such as Smart City, Energy/Environment, e-Health and Engineering Modelling. Tried to understand the complex and intertwined effects of IoT technologies on societies and their potential effects on sustainability in general. Various application areas of IoT technologies were discussed as well as the progress made. Four main topical areas were discussed in the herein editorial, i.e. latest advancements in the further fields: (i) IoT technologies in Sustainable Energy and Environment, (ii) IoT enabled Smart City, (iii) E-health – Ambient assisted living systems (iv) IoT technologies in Transportation and Low Carbon Products. The main outcomes of the review introductory article contributed to the better understanding of current technological progress in IoT application areas as well as the environmental implications linked with the increased application of IoT products.

By. Abhay Dwivedi
(Student - 7th Sem)

ARTICLE ON:
How to Install Node.js on your Pi

There are numerous MQTT libraries for Linux on Raspberry Pi. I recommend using Node.js for several reasons.

First, Node.js provides an ecosystem of tools and libraries that work with IoT use cases. It is very easy to install software on Node.js. NPM allows you to install modules for MQTT, sensor support, and new runtimes with one line of commands.
Second, JavaScript is easy for most developers to grasp. It is a good language for writing IoT applications.
Third, Node.js is a high performance runtime. While Node.js applications are written in JavaScript, many computationally heavy or I/O intensive tasks are actually executed by native binaries via the runtime.
To install Node.js on Ubuntu 20.04 or Raspberry Pi OS, SSH into the device and run the following command in the SSH terminal.

$ curl -sL https://deb.nodesource.com/setup_10.x | sudo bash - $ sudo apt install nodejs

You can verify the installation is done correctly by running the following two commands: $ node -v and $ npm -v. Both node and npm are now available.

From here, you can use npm to install additional modules for MQTT communication and IoT accessories.

By. Suryansh Shrivastava
(Student -5th Sem)

ARTICLE ON:
Anatomy of an IoT malware attack

If you have IoT devices in your home, the truly frightening thing is that your devices might have already been attacked and compromised. And you might not even know. Why? Because most IoT devices have built-in vulnerabilities, and there are LOTS of them connected to the Internet.

How many? More than three years ago, experts predicted that by 2022 there would be over 20 billion IoT devices in use. But according to this (more recent) McAfee study that number is projected to be 25 billion by 2022.

It seems that our predictions of the number of IoT devices are always low, as IoT device adoption is driven by many factors like price and ever-increasing network communication speeds. And according to Nokia, 5G communication is likely to speed IoT device adoption.

So what kinds of vulnerabilities are we talking about? According to the OWASP IoT project all IoT devices have potential security vulnerabilities like weak passwords and other poor default security settings, lack of encryption when devices communicate over the network, and poor (or non-existent) user-serviceable device management.
Due to these vulnerabilities, many IoT devices are surprisingly easy to attack.
Is it any wonder, then, why IoT devices are such frequent targets of hackers and bot-herders, like the ones who launched Distributed Denial of Service (DDoS) attacks in 2016 against security blogger Brian Krebs and Silex in June of 2019?
If you're like I was before I really dug into this topic, you have questions:
What does an IoT device look like under the hood?
What does an IoT malware attack look like?
What do you do to protect your IoT devices from attack?

By.Himashu Tripathi
(Student - 3rd Sem)

ARTICLE ON:
Enabling Intelligent IoTs for Histopathology Image Analysis Using Convolutional Neural Networks

Medical imaging is an essential data source that has been leveraged worldwide in healthcare systems. In pathology, histopathology images are used for cancer diagnosis, whereas these images are very complex and their analyses by pathologists require large amounts of time and effort. On the other hand, although convolutional neural networks (CNNs) have produced near-human results in image processing tasks, their processing time is becoming longer and they need higher computational power. In this paper, we implement a quantized ResNet model on two histopathology image datasets to optimize the inference power consumption. We analyze classification accuracy, energy estimation, and hardware utilization metrics to evaluate our method. First, the original RGBcolored images are utilized for the training phase, and then compression methods such as channel reduction and sparsity are applied. Our results show an accuracy increase of 6% from RGB on 32-bit (baseline) to the optimized representation of sparsity on RGB with a lower bit-width, i.e., <8:8>. For energy estimation on the used CNN model, we found that the energy used in RGB color mode with 32-bit is considerably higher than the other lower bit-width and compressed color modes. Moreover, we show that lower bit-width implementations yield higher resource utilization and a lower memory bottleneck ratio. This work is suitable for inference on energy-limited devices, which are increasingly being used in the Internet of Things (IoT) systems that facilitate healthcare systems.

By. Rajul Kosta
(Student -5th Sem)

Editorial Board for A.Y. 2021-2022

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