![Integral University logo] **INTEGRAL UNIVERSITY**

NEWSLETTER

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Established in September 1998, the Department of Computer Science & Engineering offers 05 undergraduate, 02 postgraduate, and 01 PhD programs. Equipped with cutting-edge hardware and software, its computer labs are fully networked and internet-connected. The faculty actively engages in Research and Development, focusing on emerging fields like Software Engineering, Cloud Computing, Computer Networks, Digital Image Processing, Soft Computing, Big Data, and AI. Comprising highly qualified and dynamic members educated from prestigious institutes, the department emphasizes innovation and advancement in the realm of Computer Science & Engineering.

VISION

To produce highly skilled personnel who are empowered enough to transform the society by their education, research and innovations.

MISSION

- To offer diverse academic programs at undergraduate, postgraduate, and doctorate levels that are in line with the current trends in Computer Science and Engineering.
- To provide the state of the art infrastructure for teaching, learning and research.
- To facilitate collaborations with other universities, industry and research labs.

MESSAGE

The Department of Computer Science & Engineering, established in September 1998, offers a diverse range of programs, including 5 undergraduate, 2 postgraduate, and 1 PhD program. Our computer labs are equipped with state-of-the-art hardware and software, providing a cutting-edge learning environment. All facilities, including laboratories, staff rooms, and offices, are fully networked and connected to the internet, ensuring seamless access to information and resources.

Our faculty members, who are highly qualified and educated from prestigious institutions, are actively engaged in research and development in emerging areas of Computer Science & Engineering. Current research focuses include Software Engineering, Cloud Computing, Computer Networks and Security, Digital Image Processing, Soft Computing, Big Data, and Artificial Intelligence. We also emphasize best practices, such as the establishment of student clubs and the integration of Sustainable Development Goals (SDGs) into our courses, enhancing the value of our educational programs.

Empowering minds and innovating futures, the department strives for excellence in education while staying at the forefront of technological advancements. Over the years, we have made significant strides in both academic and research endeavors, contributing to the ever-evolving field of Computer Science.

PROF. AKHEELA KHANUM

Head of the Department,
Computer Science and Engineering

MESSAGE

CHIEF EDITOR

In the dynamic realm of academia, keeping abreast of developments isn't merely a choice but an imperative. As the Chief Editor of the Department of Computer Science and Engineering Newsletter at Integral University, it is with great pleasure that I extend a warm invitation to you to explore our platform, mirroring the vitality of our academic community.

Within the pages of our newsletter, you'll find a rich tapestry of highlights ranging from technical events showcasing the latest breakthroughs to cultural celebrations that foster unity and diversity. Our sporting activities epitomize sportsmanship and camaraderie, while workshops, seminars, and guest lectures offer valuable insights from both industry leaders and academic luminaries.

Our newsletter transcends mere publication; it serves as a beacon of our collective journey toward excellence, embodying our shared vision of leveraging the power of education to sculpt a brighter tomorrow.

We are grateful for your confidence in us. Let us unite in nurturing a culture of curiosity, creativity, and inclusivity together.

MS. ROSHAN JAHAN

Assistant Professor,
Department of
Computer Science and Engineering

UNDERSTANDING COVID-19: A GLOBAL CHALLENGE"

Amidst the global upheaval caused by the COVID-19 pandemic, understanding the virus is paramount. COVID-19, an abbreviation for Coronavirus Disease 2019, stems from the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), initially identified in Wuhan, China, in late 2019. Its highly contagious nature primarily spreads through respiratory droplets, making close contact a significant transmission risk. Symptoms vary widely, encompassing fever, cough, fatigue, and loss of taste or smell, with severity ranging from mild to life-threatening, particularly for those with underlying health conditions.

Governments, health authorities, and healthcare systems globally have implemented diverse strategies to curb transmission, including testing, contact tracing, and vaccination campaigns. While effective, these measures have disrupted daily life and economies. The development and deployment of COVID-19 vaccines offer hope, but challenges persist in achieving equitable distribution and overcoming vaccine hesitancy. As we navigate this complex landscape, staying informed, adhering to public health guidelines, and fostering resilience are pivotal in overcoming this global crisis and fostering a healthier future.

COVID Chaos: A Year We Won't Forget
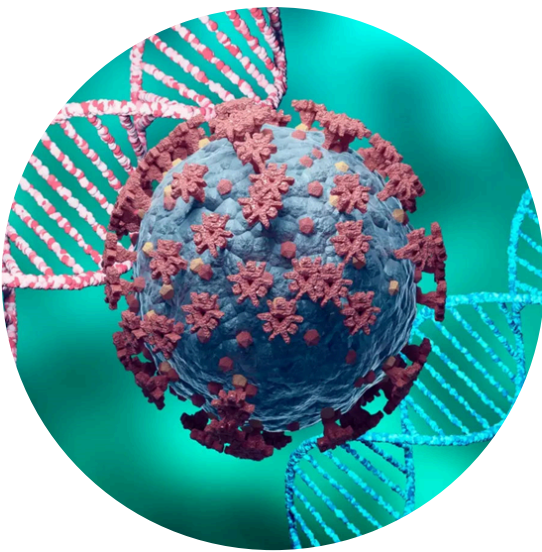
"Knowing COVID-19 Mutations and How to Stay Safe"

With the ongoing COVID-19 pandemic, new strains of the virus are appearing that make it easily transmitted and might resist existing vaccines. These changes underscore the need for caution and adherence to safety precautions. Though they can be more contagious, prevention still involves wearing masks, maintaining social distance, washing hands frequently, and receiving medications as soon as possible. Following these measures will help in slowing down infection rates while shielding against fresh variants, until the vaccine is developed and tested ,public is required to follow the precautions

- Empty Streets, Packed Hospitals (May 2020): Remember summer 2020? Forget pool parties – think ghost towns! Hospitals overflowed, and brave healthcare workers fought a relentless battle. Masks became our new normal (not the most stylish, but hey, safety first!).
- Economy Takes a Hit (Summer 2020): This wasn't just a health crisis, it hurt our wallets too. Businesses closed, jobs vanished, and the economy wobbled like a jelly pyramid.
- Vaccine Race Heats Up (Summer 2020): Scientists became our heroes, racing to develop a vaccine. News updates kept us hopeful, but a solution seemed far away.
- Hope Arrives (November 2020): Finally, a breakthrough! The first vaccines arrived, offering a glimmer of light at the end of the tunnel. But wait...
- New Threat Emerges (December 2020): Just like a surprise villain, new virus strains like Delta popped up, reminding us this fight wasn't over.
- India Struggles (May 2021): A devastating second wave slammed into India, overwhelming hospitals. Vaccine inequality became a global concern – everyone needed protection.
- Restrictions Ease, But Not Too Fast (June 2021): As vaccinations rose, some restrictions loosened. We cautiously enjoyed outdoor dining, but Delta remained a threat, keeping us on our toes.
- A Year of Change: This year was a rollercoaster of fear, hope, and human spirit. We learned to adapt, witnessed science in action, and became more resilient. Here's to a brighter future, with laughter replacing the silence and (hopefully) more fashionable masks!

Harnessing Technology: Tracking COVID-19 in the Digital Age

In the battle against the COVID-19 pandemic, technology has emerged as a powerful ally in tracking and combating the spread of the virus. From contact tracing apps to sophisticated data analytics tools, technology has played a pivotal role in providing real-time insights, identifying hotspots, and informing public health interventions. Contact tracing apps, powered by Bluetooth and GPS technology, enable users to receive notifications if they have come into contact with someone who has tested positive for COVID-19, helping to break chains of transmission and prevent further spread of the virus. Moreover, data analytics platforms have been instrumental in aggregating and analyzing vast amounts of data, allowing public health officials to identify trends, predict outbreaks, and allocate resources more effectively. As we navigate the complexities of the pandemic, technology continues to evolve and innovate, offering new tools and solutions to address the challenges before us. By harnessing the power of technology, we can empower individuals, communities, and governments to track and mitigate the impact of COVID-19, ultimately saving lives and safeguarding public health.

Education Amidst Uncertainty

In the midst of the COVID-19 pandemic, education has faced unprecedented challenges. Schools and universities swiftly transitioned to online learning, navigating new technologies and methods to ensure continuity in education. Yet, behind the screens lie stories of resilience and adaptation. Educators have innovated, students have persevered, and communities have united to support one another through these uncertain times. As we continue this journey, let us remember that education is not just about classrooms and textbooks but about the resilience of the human spirit and the power of community to overcome adversity together.

Departmental Events

Azure Technologies

The Department of Computer Science and Engineering at Integral University, Lucknow, hosted a comprehensive guest lecture on "Azure Technologies" on March 13th, 2021, attracting approximately 100 participants from various segments. This enlightening session provided attendees with a deep dive into the transformative potential of Azure platforms, offering insights into their practical applications and real-world implications across industries. Facilitated by industry experts, the lecture fostered dialogue and collaboration, enabling participants to exchange ideas and explore opportunities for leveraging Azure technologies effectively. By enhancing both theoretical understanding and practical skills, the event equipped attendees with the knowledge and confidence to navigate the complexities of today's digital landscape and drive innovation in their respective fields.

Cyber Forensics – Retrieve Loss Data

The Competitive Examination Preparation Committee (CEPC) of the Department of Computer Science and Engineering, in collaboration with I Nurture Education Solutions Private Limited, organized a one-day online workshop titled "Cyber Forensics –Retrieve Loss Data" on September 30, 2020. In today's world, where information technology (IT) and ICT tools are ubiquitous, digital evidence holds significant importance. The escalating rate of cybercrime has led to a surge in cybersecurity breaches, making it crucial for individuals to understand cybercrimes and related investigations conducted by experts to uncover illegal activities aimed at stealing and misusing data. More than 80 participants from all engineering branches of Integral University benefited from this workshop. The workshop provided insights into securing digital information and offered clarity on career choices, such as becoming a digital crime investigator or cyber forensic expert. Participants were trained in the best techniques used in data and computer forensic investigations, empowering them with valuable skills in this domain.
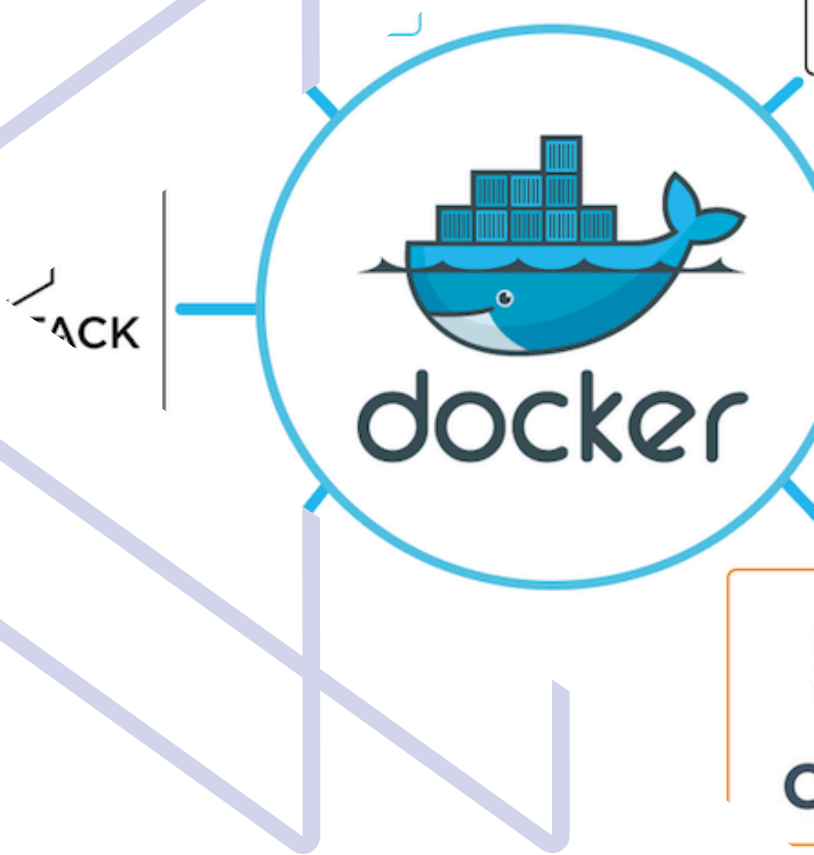
"Big Data Analytics using CLOUDERA"

In accordance with the University activity calendar, the Department of Computer Science and Engineering at Integral University Lucknow orchestrated a Seven Days Workshop cum FDP on "Big Data Analytics using CLOUDERA" from March 19th to 26th, 2021, conducted online, drawing the interest of 100 faculty and students from various Departments of different Universities. Dr. Shish Ahmad, Associate Professor of the department, served as the resource person. With the exponential growth of data across sectors, the imperative to analyze big data has become undeniable. Big Data Analytics, globally adopted, offers manifold benefits from the generated data. The workshop aimed to equip participants with updated knowledge in Big Data and its analytical tools, specifically focusing on the Cloudera platform alongside Hortonworks, underscoring the necessity to keep faculty and students abreast of the latest technological advancements in Big Data Analytics to augment their skills and align them with industry trends.

"Live Hands-on Training on Docker-A Cloud Development Platform"

Following the directives of the University activity calendar, the Department of Computer Science and Engineering at Integral University Lucknow conducted a Two Days Workshop on "Live Hands-on Training on Docker-A Cloud Development Platform" on November 7th and 8th, 2020, tailored for 2nd and 3rd-year CSE and CTIS students. The workshop aimed at fostering an understanding of fundamental terminologies and concepts associated with Docker and Docker Swarm, facilitating the discernment of Kubernetes' appropriate usage for container orchestration, and imparting practical skills in deploying applications on OpenShift through Docker and Kubernetes knowledge application. Led by Mr. Suaib, faculty of CSE, and supported by resource personnel, the workshop concluded successfully with 80 students completing the program and receiving their certificates.

Student's Speaks

Apple becomes self sufficient

Despite making all the software and hardware Apple couldn't really extract the peak performance from its computers because the processor it used was made by intel but now things have changed.

Apple announced its first ever M1 chip made for its Mac computers. The chip is the fastest and most efficient chip in the market right now boosting the performance to a massive 3.5 times increase in CPU performance and a massive 6 times increase in GPU performance than the previous intel chip. The battery life has also jumped to double than the previous generation of the Mac as claimed by Apple. The machine learning capabilities are 15 times more than the previous generations.

Apple has truly created a beast of a chip and it has only increased the excitement of tech enthusiasts to see what else apple is going to pull off in the future and what will the current market leaders do to compete.

-Samad Kausar
1st Year

PlayStation 5

Sony launched its next-in-line gaming console, the PS5 trying to replicate its massive success with the previous console PS4 which was its most popular console. The newer PS5 is a direct competitor to its Microsoft's counterpart the X-Box S and X series. It claims to run faster with better graphics. It also promised a better gaming experience with a newer controller design. It maintains backward compatibility with the majority of PS4 games. Starting at $499.99 it was certainly not inexpensive but still is not as expensive as PS3 which remains the most expensive consoles launched by Sony.

-Mohammad Shoaib
1st Year

Tensions Flare Between Iran and the United States:

In early January 2020, tensions between Iran and the United States hit a peak when the U.S. carried out an airstrike in Baghdad, killing Qasem Soleimani, a top Iranian military leader. Iran retaliated over the next two months with rocket attacks on U.S. bases in Iraq, injuring dozens of U.S. troops and killing many Iraqis. Tensions flared again in April when several Iranian speedboats harassed U.S. warships in the Persian Gulf, prompting Trump to tweet that he had issued orders "to shoot down" Iranian gunboats if the harassment continued. This action led Iran to announce it would no longer follow the restrictions outlined in the nuclear deal. Tragically, amidst the heightened tensions, Iran mistakenly shot down a Ukrainian passenger plane. Throughout the year, the U.S. imposed more sanctions on Iran, and Iran responded by increasing its uranium enrichment activities, breaching the limits set by the nuclear deal. The situation worsened later in the year with the assassination of a top Iranian nuclear scientist, prompting Iran to move further away from the terms of the deal. This ongoing conflict raises concerns about the possibility of Iran completely withdrawing from the agreement, setting the stage for critical diplomatic negotiations in 2021.

-Mohtasham Faraz
1st year

EDITORIAL BOARD

◀CHIEF EDITOR
Mrs. Roshan Jahan,
Assistant Professor,
Department of Computer
Science and Engineering

EDITOR ▶
Mrs. Anum Kamal,
Research Scholar,
Department of Computer
Science and Engineering

1st Year

SAMAD KAUSAR

1st Year

MOHTASHAM FARAZ

1st Year

MOHAMMAD SHOAIB

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, LUCKNOW

EDITOR-IN-CHIEF:
Ms. Roshan Jahan
Assistant Professor
roshan@iul.ac.in

EDITOR:
Ms. Anum Kamal
Research Scholar
anumkama@student.iul.ac.in

INSPIRING EXCELLENCE