



KCG
COLLEGE OF TECHNOLOGY



CODER'S CONNECT



DEPARTMENT
OF CSE



**TO MAKE EVERY MAN A SUCCESS
AND NO MAN A FAILURE**

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VISION

The Department of Computer Science and Engineering desires to become a prominent centre of excellence for producing competent IT professionals for providing software and software enabled solutions.

MISSION

Provide Quality Education in the field of Computer Science and Engineering & related domains. Facilitate socially responsive research and innovation. Inculcate professional behaviour, a spirit of entrepreneurship and commitment to the progress of the nation.

EDITORIAL'S DESK

Welcome to the office of the Head of the Department at KCG College of Technology. Our department is dedicated to providing a stimulating and supportive learning environment. We prioritize not only academic growth but also the holistic development of our students. Through a balanced approach that combines rigorous academics, practical exposure, and character building, we strive to equip our students with the skills and mindset needed to excel in their chosen paths. Our goal is to prepare them to make positive contributions to the global community. At our department, we are committed to upholding the college's vision. We are dedicated to fostering the growth of future leaders. Together, we aim to create an environment that nurtures both personal and academic growth, ensuring that our students are well-prepared for their journey ahead.



FACULTY – RESEARCH ACTIVITIES

FACULTY RESEARCH PUBLICATIONS :



DR. CLOUDIN

Dr. Cloudin, "A Hybrid Approach on Human Driver Behavior Prediction and Network Performance Evaluation in VANET," International journal, Solid State Technology.

MS. I HUMAIRA BEGUM

Dr. Humaira Begum, "Bio-Inspired Algorithms for Preserving the Privacy of Data," International journal, the 'Journal of Computational and Theoretical Nano Science.'



DR.R. DHANALAKSHMI

Dr. R. Dhanalakshmi, "Adaptive cognitive intelligence in analyzing employee feedback using LSTM," featured in the 'Journal of Intelligent and Fuzzy Systems' in September 2020, Her second publication, also in the 'Journal of Intelligent and Fuzzy Systems' in September 2020, explores the intricate domain of network analysis, with a focus on "Uncovering hidden community structures in evolving networks based on neighborhood."

DR.MINU JACOB

Dr. Minu Jacob, "Twitter-Based Disaster Management System Using Data Mining," International journal, "Lecture Notes on Data Engineering and Communications Technologies."



DR. PRAVEEN JOE I R

Dr. Praveen Joe, "Optimizing Resource Utilization through Offloading of Jobs in Mobile Devices using Modified LSTM Algorithm.", "Automation of Marketing and Sales of Agricultural Products through a Mobile Application" in the 'Annals of RSCB International.'

FACULTY- RESOURCE PERSON :

DR.CLOUDIN S

We deeply appreciate Dr. S. Cloudin for his significant role as a resource person in the Faculty Empowerment Program, where he focused on "Optimum Utilization of E-resources for Learning and Teaching" at Hindustan First Grade College in Mysuru, India, on November 30, 2020. His contributions have not only benefited our institution but also contributed to national-level initiatives aimed at improving digital learning resources for educators and students. Dr. Cloudin's expertise and dedication to enhancing education through digital resources are truly commendable, and we are proud to have him as a valued member of our faculty.



DR.R. DHANALAKSHMI

We extend our heartfelt appreciation to Dr. R. Dhanalakshmi for her outstanding contributions in the field of technology education. Dr. Dhanalakshmi's role as an active resource person in educational initiatives reflects her commitment to advancing knowledge and empowering faculty members. Her participation as a resource person in the Faculty Development Training Program (FDTP) on Cloud Computing at LICET, Chennai, on May 27, 2021, and as a resource person for the STTP Phase II, sponsored by AICTE, hosted by B.S. Abdur Rahman Crescent Institute of Science and Technology on October 24, 2021, underscores her dedication to sharing expertise and knowledge. These engagements serve as a testament to her leadership and commitment to promoting technological advancements in education at the national level. We are immensely proud to have Dr. R. Dhanalakshmi as a valued member of our faculty. Her contributions greatly enrich our institution, and her dedication to fostering excellence in technology education is truly commendable. Thank you, Dr. Dhanalakshmi, for your exemplary service and commitment to advancing education in technology.





DR. M KRISHNAMURTHY

We extend our heartfelt appreciation to Dr. M. Krishnamurthy for his exceptional contributions to technology education. Dr. Krishnamurthy's active role as a resource person and guest lecturer has significantly enriched our institution and the broader educational community. His guest lectures at KCG, Chennai, in September and October 2020, along with his service as a resource person for AICTE-sponsored Short Term Training Programs (STTP) at DGCT, Salem, and KCG, Chennai, in November and December 2020, demonstrate his unwavering commitment to empowering students and educators in the field of technology. Furthermore, Dr. Krishnamurthy's participation as a resource person in an IET-sponsored Faculty Development Program at Saveetha University, Chennai, and an AICTE-sponsored Faculty Development Program at Sri Sai Ram Institute of Technology, Chennai, in December 2020 and February 2021, respectively, underscores his multifaceted engagements and dedication to advancing technology education on a national level. We are immensely proud to have Dr. M. Krishnamurthy as a valued member of our faculty. His tireless efforts and expertise have left an indelible mark on our institution and the larger academic community. Thank you, Dr. Krishnamurthy, for your exceptional service and commitment to fostering excellence in technology education.

DR. PRAVEEN JOE I R

We commend Dr. I. R. Praveen Joe for his pivotal role as a resource person in the field of Service-Oriented Computing. His expertise shared at St. Ann's Arts and Science College, Madhavaram, Chennai, during a national-level event on February 12, 2021, reflects his commitment to advancing knowledge and academic excellence in this domain at a national level. Dr. Joe's contributions inspire both our institution and the wider academic community, leaving a lasting impact on the field. We are proud to have him as a valued member of our faculty, and we thank him for his exceptional service and dedication to advancing knowledge.



JOURNAL REVIEWER :

DR. S SANKAR

We appreciate our faculty member's role as a reviewer for the Journal EAI MobiHealth 2020. They reviewed a paper titled "Data mining Application to Analyze Outbreak Surveillance and Response System: In case of Ethiopia" in November 2020. Their contribution signifies their commitment to advancing healthcare technology and data analysis through rigorous peer review. We are proud to have dedicated faculty members who actively contribute to academic excellence in their field. Thank you for your valuable service.



DR.R. DHANALAKSHMI

We highly appreciate our faculty member's significant role as a reviewer for esteemed journals and conferences. Their commitment to maintaining the quality and rigor of academic publications is commendable. They have reviewed papers in the field of information technology education, cybersecurity, modern learning management systems, and participated in international conferences such as Paper PID 7226, "Towards Understanding Information Systems Students", Paper PID 6953, "Formative Assessment Activities to Advance Education: A Case Study", . Their expertise and dedication enrich our academic community and contribute to the advancement of knowledge in various domains. We are grateful for their valuable service in ensuring the quality of scholarly work.

DR. PRAVEEN JOE I R

We extend our sincere appreciation to our esteemed faculty member for their significant role as a reviewer for the prestigious journal "Automatika: Journal of Control, Measurement, Electronics, Computing, and Communications" published by Taylor and Francis Publishers. This journal is not only Scopus Indexed and SCI Indexed but also included in Annexure I of Anna University, signifying its high academic standing. Their commitment to serving as a reviewer for such a respected journal demonstrates their expertise and dedication to maintaining the quality and rigor of scholarly publications in the fields of control, measurement, electronics, computing, and communications. Their critical evaluation and insightful feedback contribute to the advancement of research and the dissemination of knowledge. We are truly proud to have such a distinguished faculty member who actively contributes to the academic community by ensuring the excellence of research publications. Thank you for your invaluable service in upholding the standards of scholarly publishing.



SPECIAL CONTRIBUTION :



DR.R. DHANALAKSHMI

We wholeheartedly appreciate Dr. R. Dhanalakshmi for her outstanding contributions and achievements. She demonstrated her leadership by serving as a Session Chair at the International Conference on Technological Advancement in Computer and Communication, ICTACC 2021. Dr. Dhanalakshmi's proactive efforts in filing two copyrights, her recognition with the Humcen Award for "Mentor of the Year," and her recent Australian Patent Profile on Digitization of Medical Records in Cloud (Patent Number 2021100009 / March 2021) underscore her commitment to innovation, intellectual property, and mentoring. Her accomplishments truly embody excellence, and we are immensely proud to have her as a valued member of our faculty. Congratulations on her remarkable achievements, and we eagerly anticipate her continued success and contributions to our institution and the broader academic community.

DR.CLOUDIN S

We extend our heartfelt appreciation to our dedicated faculty at KCG College of Technology CSE for their exceptional work in filing the patent titled 'IoT Based Driving Behavior Analysis' (Application No. 202041040262, filed on 17/09/2020, and published on 25/03/2022). This accomplishment reflects their commitment to innovation and excellence. We thank them for their significant contributions to our institution's research and technological advancements.





DR. S SANKAR

We extend our heartfelt appreciation and admiration to Dr. S. Sankar for his remarkable achievements. In April 2021, he filed a patent titled "3D printing of cost-effective human skull models and skull implants" with the patent application number 2021101703, showcasing his dedication to advancing technology and healthcare. Furthermore, in May 2021, he obtained another patent titled "Aqua Life: A Compact device extracting drinking water from sea water" with patent number 2021100286. These innovative endeavors exemplify Dr. S. Sankar's commitment to innovation and excellence. We are immensely proud to have him as a valued member of our faculty, and we look forward to witnessing the continued impact of his groundbreaking work in both healthcare and technology. Congratulations on these outstanding achievements!

DR. PRAVEEN JOE I R

We commend Dr. I. R. Praveen Joe for his remarkable contributions and achievements, which span various domains. His accomplishments include receiving Supervisor Recognition in Anna University and registering two Ph.D. candidates, receiving awards for community service from organizations like the Rotaract Club and Y's Men International, and initiating a new YMC as part of CSR activities. Dr. Praveen Joe's commitment to professional development is evident through his pursuit of the AICTE-ISTE Orientation/Refresher Programme and his successful Soft Skills and Technical Training programs for students. He played a key role as the First-year Python Programming coordinator, contributing to exceptional results. Furthermore, his innovative patent, "Profile Based Digitization of Medical Records in Cloud," granted by the Australian Government, showcases his dedication to healthcare technology. We are proud to have Dr. Praveen Joe as a valued member of our faculty, and his contributions exemplify dedication, innovation, and excellence. We look forward to his continued impact on our institution and the wider community.



FACULTY- FUNDS RECEIVED :



DR. S SANKAR

We extend our heartfelt appreciation and admiration to Dr. S. Sankar for his remarkable achievement in filing a patent titled "3D printing of cost-effective human skull models and skull implants" with the patent application number 2021101703 in April 2021. This innovative endeavor underscores his dedication to advancing technology and healthcare. We are immensely proud to have Dr. S. Sankar as a valued member of our faculty, and his groundbreaking contributions exemplify the spirit of innovation and excellence that we cherish. Congratulations on this outstanding achievement, and we look forward to witnessing the continued impact of your work in the field of healthcare and technology.

Dr. S Sankar

DR.R. DHANALAKSHMI

We applaud Dr. R Dhanalakshmi for securing Rs. 93,000/- in funding from AICTE-ATAL to conduct the ATAL-Faculty Development Program (FDP) on Blockchain in September 2020. Her dedication and expertise ensured the program's success, enriching our academic community. We appreciate her valuable contributions and look forward to her continued dedication to our institution's academic growth and development.





EVENTS

1. UML DIAGRAMS – INDUSTRY USAGE PRODUCT LIFECYCLE

On 2nd of September 2020, a Seminar on Industry Usage Product Lifecycle was organized by the Department. The resources were obtained by **Ms. C Prasanna Durga, Senior Project Manager, Infosys**

2. SOFTWARE TESTING

On 31st of March 2021, a Seminar on Software Testing was organized by the Department. The resources were obtained by **Mr. Jones Peterson, Senior Project Manager, Sirahu Technologies.**

3. AI BASED HEARING AIDS

On 13th of March 2021 a Seminar on AI Based Hearing aids was organized by the department. The resources was obtained by **Ms Kalaiselvi, All India Institute of Speech and Hearing, Mysuru**

4. AI IN HEALTHCARE

On 20th of March 2021, a Seminar on AI in Healthcare was organized by the Department. The resources was obtained by **Ms Booma, Lecturer, Asia Pacific University, Malaysia**



ACHIEVEMENTS-STUDENTS

AKASH S (FINAL YEAR):

We commend Mr. Akash S, a student of the Computer Science and Engineering department, for his outstanding achievement during the "AI for India" event held on April 24th and 25th, 2021. He successfully developed a Face Recognition Application using Python-AI, showcasing his dedication and innovation in the field. Congratulations, Mr. Akash, on this impressive accomplishment, and we anticipate your continued success in the realm of technology.

NIVETHA. D (THIRD YEAR):

We commend Ms. Nivetha D, a third-year student in the Computer Science and Engineering department, for her outstanding participation in the Cisco NetAcad - ISTE National level CODATHON 2020, which took place on April 16th, 2020. We are proud to have students like her who actively seek opportunities to excel and inspire their peers. Congratulations, Ms. Nivetha, on your impressive participation, and we eagerly anticipate your continued success in the field of computer science.

SNEHA. R (THIRD YEAR):

We commend Ms. Sneha. R, a third-year student in the Computer Science and Engineering department, for her outstanding participation in the Cisco NetAcad - ISTE National level CODATHON 2020, which took place on April 16th, 2020. We are proud to have students like her who actively seek opportunities to excel and inspire their peers. Congratulations, Ms. Sneha on your impressive participation, and we eagerly anticipate your continued success in the field of computer science.

SRIMATHI A (THIRD YEAR):

We applaud Ms. Srimathi A, a third-year student in the Computer Science and Engineering department, for her active participation in the Smart India Hackathon on January 20th, 2020. Her involvement reflects her dedication to using technology for innovative problem-solving. . We take pride in students like Ms. Srimathi, who actively seek opportunities to contribute to technological advancements. Congratulations, Ms. Srimathi, on your valuable contribution, and we anticipate your continued success in the field of computer science.

SHIVA SHARVESH M (THIRD YEAR):

We commend Mr. M Shiva Sharvesh, a third-year Computer Science and Engineering student, for his exceptional achievements in the Micro App Challenge competitions. He actively participated and demonstrated his technical prowess in both Micro App Challenge-1 on August 13th, 2020, and Micro App Challenge-2 on September 20th, 2020. Mr. Shiva Sharvesh's dedication to these competitions showcases his commitment to honing his skills and problem-solving abilities. Mr. Shiva Sharvesh's accomplishments serve as an inspiration to his peers and reinforce our institution's commitment to fostering a culture of innovation. We congratulate him on his remarkable participation and anticipate his continued success in the field of computer science.

MITLESHWAR RAO B (THIRD YEAR):

We commend Mr. Mitleshwar Rao B, a third-year student in the Computer Science and Engineering department, for his impressive achievements and active participation in various academic events. He has notably participated in the Interdepartmental Paper Presentation in October 2020, Shasun Hackathon in March 2021, Bennet University Hackathon in April 2021, and Mini project Ideathon in May 2021. Mr. Mitleshwar Rao's diverse involvement in these events showcases his dedication to learning and problem-solving in the field of computer science and technology. We take pride in having students like Mr. Mitleshwar Rao, who actively seek opportunities to excel in various domains and inspire their peers. Congratulations to Mr. Mitleshwar Rao on his impressive accomplishments, and we anticipate his continued success in the field of computer science.

ROSHINI (SECOND YEAR):

We extend our heartfelt congratulations to Roshini, a second-year student in the Computer Science and Engineering department, for securing the 1st place in the Lockdown Showdown - INNOVATIVE IDEATION CHALLENGE during the Ideathon held on August 1st, 2020. Roshini's remarkable achievement not only reflects her exceptional creativity and problem-solving skills, particularly during challenging times like the lockdown but also brings distinction to our institution. Her innovative thinking and dedication serve as an inspiration to her peers and underscore our institution's commitment to nurturing talent and fostering a culture of innovation in the field of computer science. We take pride in students like Roshini, who consistently exhibit their commitment to excellence and their capacity to excel in competitive settings. Congratulations, Roshini, on this well-deserved honor, and we eagerly anticipate your continued success in the field of computer science.

SWETHASREE SRIBABU (SECOND YEAR):

We wholeheartedly congratulate Swethasree Sribabu, a second-year student in the Computer Science and Engineering department, for her exceptional achievements. She secured the 1st place in the Lockdown Showdown - INNOVATIVE IDEATION CHALLENGE during the Ideathon held on August 1st, 2020, showcasing her remarkable creativity and problem-solving abilities. Additionally, Swethasree's participation in prestigious events such as My Assessment India | USA for an internship, her role as the INFYTQ campus Ambassador with Infosys for an internship, and her involvement in the StartNxt Ideathon, an All India competition on October 3rd, 2020, underline her dedication to continuous learning and excellence. Swethasree's accomplishments not only bring honor to our institution but also serve as an inspiration to her peers, emphasizing our commitment to nurturing talent and promoting a culture of innovation in the field of computer science. Congratulations, Swethasree, on your well-deserved recognition, and we look forward to witnessing your continued success and contributions.

PRIYANKA M (SECOND YEAR):

We extend our sincere congratulations to Priyanka M, a second-year student in the Computer Science and Engineering department, for her notable achievements. Priyanka's participation in the My Assessment India | USA internship and her involvement in the StartNxt Ideathon, an All India competition held on October 3rd, 2020, demonstrate her commitment to continuous learning and growth in the field of computer science. Her active engagement in these opportunities reflects her dedication and eagerness to excel in real-world scenarios, which is commendable. We look forward to witnessing Priyanka's continued success and contributions in her academic journey.

Technical Article

ROSHINI
2ND YEAR

Zero Trust Model

CYBER DEFENSE



Identity and Access Management (IAM)

IAM is at the heart of the Zero Trust model. It involves robust authentication and authorization mechanisms. Users and devices must prove their identities through multiple factors, such as passwords, biometrics, and smartcards, before accessing resources. IAM policies should be granular, ensuring that individuals have access only to the specific resources required for their roles. Continuous monitoring detects anomalies and unauthorized activities promptly.

Multi-Factor

Secure Access

Micro-Segmentation

Micro-segmentation is the practice of dividing a network into smaller, isolated segments or zones. Each segment has its security policies and access controls. Even if an attacker gains access to one segment, they are confined to that zone, limiting lateral movement. This significantly reduces the attack surface and minimizes the potential damage of a breach.

Zero Trust Fundamentals



Zero Trust is founded on the principle of "Never Trust, Always Verify." This means organizations should not automatically trust any user or device, whether inside or outside the network perimeter. Instead, they must continuously verify identities, monitor activities, and validate access requests. The "castle and moat" approach to security is no longer sufficient in today's interconnected digital environment.

BLOCKCHAIN

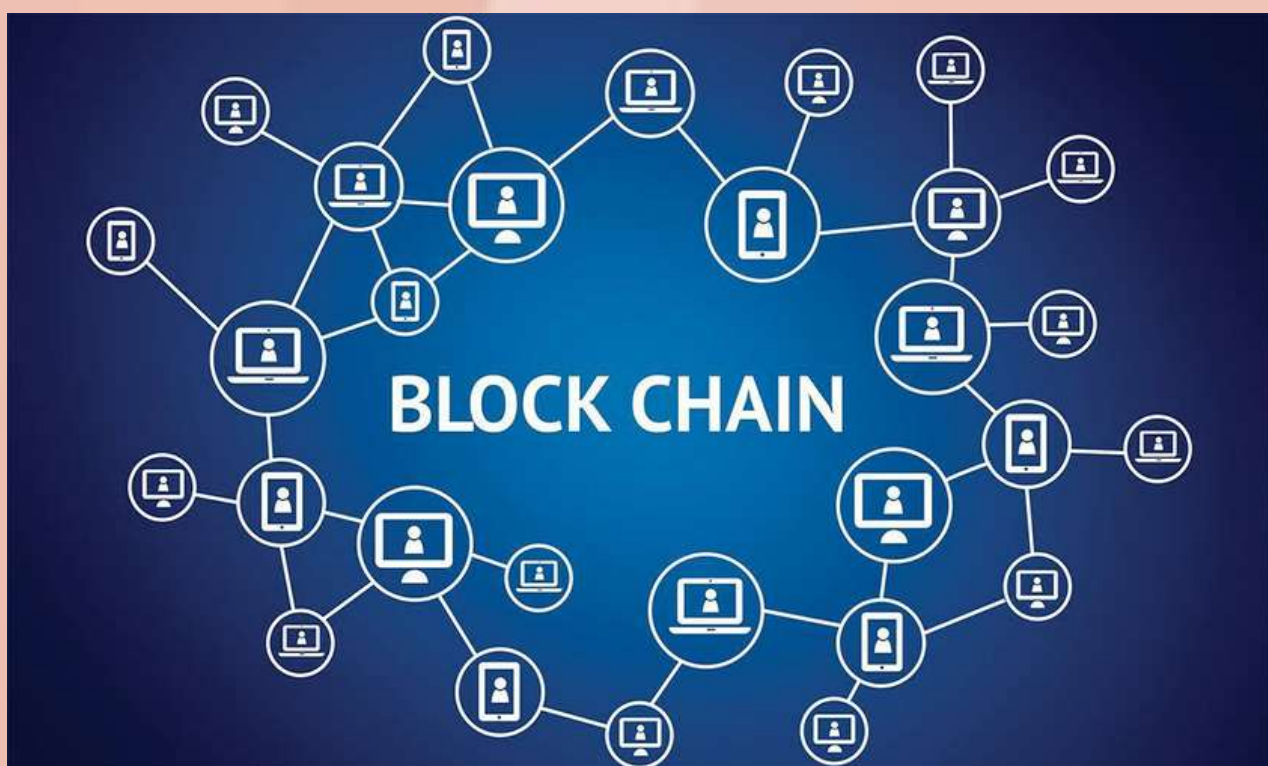


TECHNICAL ARTICLE

NIVETHA. D 3RD YEAR

WHAT IS BLOCKCHAIN?

Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An asset can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.



WHY BLOCKCHAIN IS IMPORTANT

Business runs on information. The faster it's received and the more accurate it is, the better. Blockchain is ideal for delivering that information because it provides immediate, shared and completely transparent information stored on an immutable ledger that can be accessed only by permissioned network members. A blockchain network can track orders, payments, accounts, production and much more. And because members share a single view of the truth, you can see all details of a transaction end to end, giving you greater confidence, as well as new efficiencies and opportunities.

KEY ELEMENTS OF A BLOCKCHAIN

- Distributed ledger technology
- Immutable records
- Smart contracts

HOW BLOCKCHAIN WORKS

- **As each transaction occurs, it is recorded as a “block” of data**

Those transactions show the movement of an asset that can be tangible (a product) or intangible (intellectual). The data block can record the information of your choice: who, what, when, where, how much and even the condition – such as the temperature of a food shipment.

- **Each block is connected to the ones before and after it**

These blocks form a chain of data as an asset moves from place to place or ownership changes hands. The blocks confirm the exact time and sequence of transactions, and the blocks link securely together to prevent any block from being altered or a block being inserted between two existing blocks.

