CODER'S 🔗 CONNECT

DEPARTMENT OF CSE

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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 providingsoftwareand software enabled solutions.

MISSION

- Provide quality educationin thefieldof 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 Accommodate evolving software development tools and required
- implementation facilities

EDITORIAL'S DESK

- Welcome to the heart of innovation and education at KCG College of Technology, where our department serves as the engine driving intellectual growth and personal development. We are dedicated to sculpting well-rounded individuals who not only excel academically but also embrace the broader aspects of life. Our approach combines
- the best of academia with real-world experience, creating a dynamic environment where students can hone their skills and shape their character. We don't just produce graduates; we cultivate future
- leaders who will
  make a positive impacton the global stage.

CODER'S CONNECT TEAM

| BHAVANA K | DHARANI S | ANTO NIGVIN G |
| IV YEAR CSE | IV YEAR CSE | IV YEAR CSE |

FACULTY RESEARCH PUBLICATIONS

Faculty research publications are a key channel for sharing original findings and innovative ideas with the wider academic community. These contributions, often presented through peer-reviewed journals, edited books, or conference proceedings, meet rigorous standards of credibility and scholarly excellence. By disseminating research in these forums, faculty members advance knowledge in their discipline, strengthen their professional reputation, and enhance the university's academic standing. Such publications spark collaboration, inspire further studies, and serve as valuable references for future researchers. As Isaac Newton famously said, **"If I have seen further, it is by standing on the shoulders of giants"** reminding us that every contribution builds on the work of others to pave the way for new discoveries.

Dr. Cloudin S

Cloudin, S., et al. "Integrating Blockchain IoT and 6G Technologies for Secure Efficient and Sustainable Smart City Applications Enhancing Urban Living Through Innovation." Building Tomorrow's Smart Cities With 6G Infrastructure Technology, edited by Sushil Kumar Singh, et al., IGI Global, 2025, pp. 483-508. https://doi.org/10.4018/979-8-3693-8029-1.ch017

Swamynathan, C., S, J. and Anusha, K. (2025), Design and Implementation of Heterogeneous Route Selection Algorithm for Delay Minimization in VANET. Int J Commun Syst, 38: e70032. https://doi.org/10.1002/dac.70032

Dr. S. Jothi

S. A, J. S and S. M. P, "Human Scream Detection and Analysis for Crime Reduction," 2025 International Conference on Multi-Agent Systems for Collaborative Intelligence (ICMSCI), Erode, India, 2025, pp.1528-1534, doi: 10.1109/ICMSCI62561.2025.10894058.

K. Esther Rajakumari, T. G, J. D. Syiem, S. Lavanya and S. Jothi, "AI Doc Question and Answering System," 2025 International Conference on Multi-Agent Systems for Collaborative Intelligence (ICMSCI), Erode, India, 2025, pp. 94-99, doi: 10.1109/ICMSCI62561.2025.10894448.

Abijith, G. R., Jothi, S., & A, C. (2025). An adaptive frequency partitioning framework for epileptic seizure detection using TransseizNet. Neurological Research,1–15. https://doi.org/10.1080/01616412.2025.2507323

Dr.S. Safia Naveed

R. K and S. S. Naveed, "Design and Implementation of a Novel Neural Framework for Schizophrenia Detection Using EEG Data," 2025 3rd International Conference on Disruptive Technologies (ICDT), Greater Noida, India, 2025, pp. 1661-1666, doi: 10.1109/ICDT63985.2025.10986352.

Dr. S. Kavitha Esther

K. Esther Rajakumari, T. G, J. D. Syiem, S. Lavanya and S. Jothi, "AI Doc Question and Answering System," 2025 International Conference on Multi-Agent Systems for Collaborative Intelligence (ICMSCI), Erode, India, 2025, pp. 94-99, doi: 10.1109/ICMSCI62561.2025.10894448. Jan 2025

Anju, M. I., Kothandaraman, I., Arunadevi, R., Rajakumari, K. E., Fouzia Sulthana, K., & Robinson Joel, M. (2025). Using AI to Improve Urban Sustainability: Sophisticated Pollution Control and Environmental Monitoring in Safer Cities. In A. Sharma, V. Mansotra, & P. Singh (Eds.), Citizen-Centric Artificial Intelligence for Smart Cities (pp. 61-90). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-7832-8.ch003

Dr.M.Robinson Joel

S. Prasanth, M. Robinson Joel, V. Ebenezer, K. Martin Sagayam, E. Bijolin Edwin, M. Roshni Thanka, S. Stewart Kirubakaran, Belfin Robinson Chapter Revolutionizing Healthcare, The Impact of Wearable Health Technology on Proactive and Preventative Care, By Book Innovation in Healthtech, Edition1st Edition,

First Published 2025, Imprint CRC Press, Pages23, eBook ISBN9781003516163

V. R. R, J. P, R. M P, R. Balamurugan, M. S. M. Raj and M. R. Joel, "Creating a Secure Data Sharing Network for Disease Identification Using CT Images and RHC-Based Encryption Scheme," 2025 International Conference on Intelligent and Cloud Computing (ICoICC), Bhubaneswar, India, 2025, pp. 1-5, doi: 10.1109/ICoICC64033.2025.11052063.

Optimizing customer value through hybrid supply chain strategies A comprehensive exploration of lean, agile approaches By M. Robinson Joel, V. Ebenezer, S. Stewart Kirubakaran, E. Bijolin Edwin, Roshni Thanka, Book Quantum Computing and Artificial Intelligence in Logistics and Supply Chain Management

Athinarayanan, S., Dhanakodi, K., Kavitha, R., Robinson Joel, M., Athinarayanan, S., Rajamanickam, A., Sanjaygandhi, A., & Muthukumar, S. (2026). Cervical Cancer Exposomics and the Impact of Environmental and Lifestyle Factors on Carcinogenesis. In R. Raghavan (Ed.), Environmental Factors in Carcinogenesis: Exposome-Driven Insights Into Cancer Risk and Prevention (pp. 109-138). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-5796-6.ch002

Robinson Joel, M. (2026). Ensuring Fairness in AI-Driven University Assessments: Addressing Bias in Online Course Evaluations. In A. Duarte, J. Andrade, & P. Dias (Eds.), AI as Help and Hindrance in Education (pp. 77-108). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-6018-8.ch004

Sriram, K.P., Kola Sujatha, P., Robinson Joel, M., Gokuldhev, M. (2025). Intelligent Irrigation Mechanism that Uses Machine Learning and Artificial Intelligence to Improve the Sensor Network Topology. In: Kumar, A., Swaroop, A., Shukla, P. (eds) Proceedings of Fourth International Conference on Computing and Communication Networks. ICCCN 2024. Lecture Notes in Networks and Systems, vol 1317. Springer, Singapore. https://doi.org/10.1007/978-981-96-3942-7_13

Mr. Vasantha Kumar

Next-Generation Clinical Health Leveraging Intelligent Systems and IoT for Better Care, R. Vinston Raja, M. Robinson Joel, V. Vasantha Kumar, B. NagaLakshmi, Sangeetha Krishnan, K. Ishwarya, Intelligent Systems and IoT Applications in Clinical Health, Copyright: © 2025 |Pages: 22, DOI: 10.4018/979-8-3693-8990-4.ch009

Ms. K. Sumithra

Ms. Balasubramani, M., Jose, P., Rajakumar, M. P., Devi, S., Navaneetha, K. M., & Robinson, J. M. (2026). Methods for Promoting Students' Active Engagement in Digital Environments. In A. Duarte, J. Andrade, & P. Dias (Eds.), Digital Tools and Platforms for Effective and Personalized Learning (pp. 375-402). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-6013-3.ch014

Ms. R. Devi

Devi R, et al. "AI-Driven Innovation Powering Economic Growth in Industry 4.0." Driving Socio-Economic Growth With AI and Blockchain, edited by Ranson Sifiso Gwala, IGI Global, 2025, pp. 25-44. https://doi.org/10.4018/979-8-3693-8664-4.ch002

Ms. N. Alamelu Menaka

Rajakumar, M. P., Balamurugan, R., Kavitha, R., Alamelu Menaka, N., Jacson, J., & Robinson Joel, M. (2025). Personalized Precision Integrating AI for Tailored Treatment Planning in Nuclear Medicine. In D. Satishkumar & M. Sivaraja (Eds.), AI Insights on Nuclear Medicine (pp. 181-202). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-1275-0.ch009

Ms. S. Priya

D. D. W. Praveenraj, H. D, M. Al-Farouni, S. Priya, B. Arunkumar and P. Mittal, "Utilizing Transforming Portfolio Management Through Automation Using Advanced Deep Reinforcement Learning Algorithms for Optimized Investment Strategies," 2025 International Conference on Automation and Computation (AUTOCOM), Dehradun, India, 2025, pp. 1368-1372, doi: 10.1109/AUTOCOM64127.2025.10956627.

Ms. K. Raghavi

Balasubramani, M., Rajakumar, M. P., Suganthi, R., Navaneetha Krishnan, M., Raghavi, K., & Robinson Joel, M. (2026). Using AI to Improve Crop Tracking, Soil Investigation, and Nutrient Management in Precision Agriculture. In P. Whig & A. Elngar (Eds.), Precision and Intelligence in Agriculture: Advanced Technologies for Sustainable Farming (pp. 247-272). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3373-5283-1.ch009

STUDENT ACHIEVEMENTS

- **Fathima M** (II Year) showcased her talent and knowledge by winning the **Intercollege Paper Palooza competition**, standing out among several participants with her presentation skills and innovative ideas.
- **Yuvarani R** (II Year) made the department proud at the **national-level Nexodus '25**, where she secured the 2nd Prize, proving her technical expertise and competitive spirit.
- **Iyyad Luqman K** (II Year) achieved exceptional success at multiple events. He secured the 1st Prize along with a cash award of ₹10,000 at the prestigious **Smartathon IEEE National-level Technical Event**. Adding to his accolades, he also won the 1st Prize at **Innowah 2025** – Orgationation, IIT PALS (IIT Madras) and bagged the 2nd Prize in the **Srishti Technical Competition**. His consistent achievements demonstrate outstanding innovation and dedication.
- **Haarini C V** (II Year) proved her technical capabilities by winning 2nd Prize in both the **conducted by Yartech Services** and the **National-level Project Competition**, establishing herself as a strong performer in the technical arena.

- **Devipriya D** (II Year) brought honor to the department by securing the 1st Prize along with a cash award of ₹3,000 in the **National-level Project Competition**. Her achievement reflects her creativity, commitment, and strong problem-solving skills.
- **Balaabirami** (II Year) showcased excellence by winning the 1st Prize and a cash award of ₹3,000 in the **CSI Chennai Chapter – National-level Technical Competition**. Furthermore, she received a special prize worth ₹10,000 at the **TN Startup Competition** held at Karpagam, Coimbatore, marking a significant milestone in her innovation journey.
- **Janani V** (III Year) displayed remarkable innovation at the **SmartIDEAthon 2024 – National-level Technical Event**, where she won a Special Prize worth ₹50,000, showcasing her creativity and problem-solving excellence.
- **Pranesh V and Maniraj K** (III Year) brought pride to the department by securing the 3rd Prize in the **National-level Hackathon Innovatex 2K24**, demonstrating strong teamwork and technical expertise.

- **Priyanka B.K, Monika R, and Sameer Kumar** (III Year) proved their talent and collaboration skills by winning the **National-level Technical Event Mavericks'25** conducted at Agni College of Technology, adding another feather to our department's cap.
- **Faheem Rahman M** (II Year) secured notable achievements in technical events by winning the 3rd Prize (₹500) in the **National-level Project Expo** and also bagging the 1st Prize (₹3,000) in the **National-level Project Competition** 2025, showcasing his consistent excellence in technical innovation.
- **Buddala Siddhartha** (III Year) achieved great success by winning the 1st Prize (₹3,000) in **Innothon, conducted by KCG College of Technology**, along with a Special Prize and Internship Opportunity. He also showcased his skills by winning WebQuest, proving his versatility in different platforms.

TECHNICAL ARTICLE
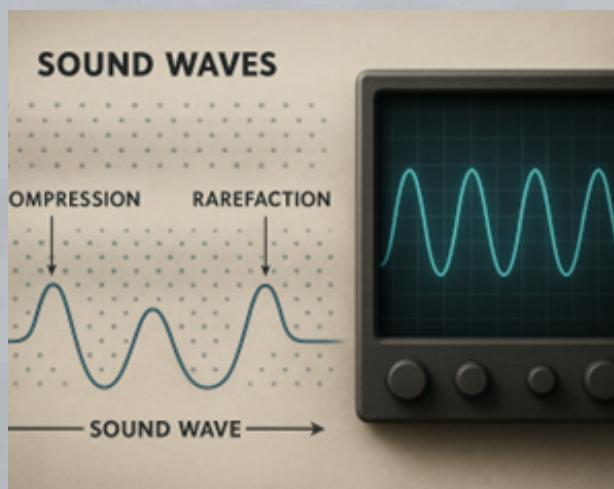## Engineering Music—The Science Behind Sound and Acoustics

**ANTO NIGVIN G
[FOURTH YEAR]**

Introduction:

Music is often perceived as pure art, but behind every note lies a foundation of science and engineering. The way sound is produced, transmitted, and experienced is deeply rooted in acoustics—the study of sound waves and vibrations. Engineers work hand-in-hand with musicians to ensure that music reaches us in its purest form, whether in a concert hall, a recording studio, or through our headphones.

The Science of Sound

Sound is a mechanical wave that travels through air, water, or solids. Its properties—frequency, amplitude, and wavelength—determine pitch, volume, and tone. Engineers use these principles to design everything from concert halls with perfect acoustics to everyday devices like microphones and speakers.

Technology Changing Music

Modern technology has transformed how we create and experience music. Recording studios are designed with soundproofing materials and precision-engineered panels. Digital audio workstations (DAWs) allow producers to mix and refine music with near-perfect accuracy. Artificial intelligence is even entering the scene, generating melodies, assisting with mastering, and creating new ways for artists to experiment with sound.

Why It Matters to Students

The applications of acoustic engineering go beyond entertainment. In medicine, sound is vital for developing hearing aids and cochlear implants. In aviation, noise reduction technologies make flights quieter and more comfortable. Classrooms with acoustic treatment help students hear and learn better, while astronauts rely on specialized communication systems in space where normal sound propagation does not work.

Conclusion:

Every melody we enjoy is supported by unseen innovation. Behind the magic of music are engineers who design, optimize, and refine how we hear sound. By blending art with science, they ensure that music not only entertains but also heals, teaches, and inspires.