DEPT. OF EECE

GITAM
(DEEMED TO BE UNIVERSITY)
NAAC A++ ACCREDITED

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VISION

Create an environment to develop professional, scientific, and innovation skills in Electrical and Electronics Engineering to meet global demands and societal needs.

MISSION

- To understand the fundamental concepts through laboratory or field techniques of Electrical and Electronics Engineering.
- To prepare students for employment in multi-disciplinary areas.
- To enable students to pursue advanced degrees in multi-disciplinary programs or related professional schools.

EDITORIAL BOARD

HOD, EECE

Dr. Pankaj Kandhway

Mrs. Padmaja B. (M. Tech)

RESEARCH

1. Kumar, A. Kishore, Shefali Waldekar, Md Sahidullah, and Goutam Saha (2022). Robust acoustic domain identification with its application to speaker diarization. *International Journal of Speech Technology*, 25 (4), 933-945.
2. Mishra, G. S., Mohankumar, N., & Singh, S. K. (2023). Impact of InGaN notch on sensitivity in dielectric modulated dual channel GaN MOSHEMT for label-free biosensing. *Current Applied Physics*, *49*, 83-90.
3. Sharma, M., & Sundaram, S. (2023). A geometric control approach for multi-UAV cooperative payload transfer. *Nonlinear Dynamics*, *111*(11), 10077-10096.
4. TJ, S. J., Jacob, I. J., & Mandava, A. K. (2023). D-ResNet-PVKELM: deep neural network and paragraph vector-based kernel extreme machine learning model for multimodal depression analysis. *Multimedia Tools and Applications*, 1-32.
5. Chakraborty, A., Ram, G., & Mandal, D. (2023). Phase center motion based time modulated arrays with preprocessed time schemes for selective harmonic beamforming in B5G communication systems. *Transactions on Emerging Telecommunications Technologies*, *34*(5), e4754.
6. Kollem, S., Reddy, K. R., Prasad, C. R., Chakraborty, A., Ajayan, J., Sreejith, S., ... & Janapati, R. (2023). AlexNet-NDTL: Classification of MRI brain tumor images using modified AlexNet with deep transfer learning and Lipschitz-based data augmentation. *International Journal of Imaging Systems and Technology*.
7. Bhowmick, S., & Panja, S. (2022). Analysis of Epidemic Spreading With Opinion Evolution in Multiplex Network. *IEEE Transactions on Circuits and Systems II: Express Briefs*, *70*(2), 695-699.
8. Telagam, N., Kandasamy, N., & Naidu, U. S. (2023). Smart Device for Women's Safety Designed Using IoT and Virtual Instrumentation Browser. *International Journal of Interactive Mobile Technologies*, *17*(2).
9. Kumar, M. A., Sara, D., Telagam, N., & Raj, B. (2023). Real-Time Implementation of Amphibious Unmanned Aerial Vehicle System for Horticulture. *International Journal of Electronics and Telecommunications*, 127-132.
10. Sharma, M., & Sundaram, S. (2023). A geometric control approach for multi-UAV cooperative payload transfer. *Nonlinear Dynamics*, *111*(11), 10077-10096.
11. Kandasamy, N., Telagam, N., & Chitra, K. (2023). Design of novel low power architectures of 4: 2, 5: 2 compressors and 2-bit counter using 7 nm FinFET technology. *Journal of Ambient Intelligence and Humanized Computing*, *14*(3), 2467-2479.
12. Sara, D., & Mandava, A. K. (2023). MC-CDPNet: Multi-Channel Correlated Detail Preserving Network for X-Ray-Based Baggage Screening. Journal of Nondestructive Evaluation, 42(2), 47.
13. Ismail, K. B. M., Arun Kumar, M., Mahalingam, S., Kim, J., & Atchudan, R. (2023). Recent Advances in Molybdenum Disulfide and Its Nanocomposites for Energy Applications: Challenges and Development. Materials, 16(12), 4471.
14. Anughna, N., & Ramesha, M. (2023). Antenna Reconfiguration Based DOA Estimation for AWGN Channel in MIMO Applications. Progress In Electromagnetics Research C, 128, 73-84.
15. Chakraborty, A., Singh, I., Gupta, S., Ram, G., & Mandal, D. (2023). Sideband Power Control in Time-Modulated Antenna Arrays for Bidirectional Harmonic Beamforming and Beam Scanning. AEU-International Journal of Electronics and Communications, 154788.

CONFERENCES

1. Sharma, M. (2022, November). Geometric Control of uncertain quadrotor with external disturbances. In *2022 IEEE 19th India Council International Conference (INDICON)* (pp. 1-5). IEEE.
2. Sharma, M. (2022, November). Attitude Stabilization of Quadrotor with bounded angular velocity and bounded control input. In *2022 IEEE 19th India Council International Conference (INDICON)* (pp. 1-5). IEEE.
3. Kumar, M. A., Sabarimuthu, M., Telagam, N., Kumar, B. N., Upputuri, H. S., & Reddy, D. S. (2022, December). Smart Sensor Network Based Rover Design for Surveillance. In *2022 IEEE 1st International Conference on Data, Decision and Systems (ICDDS)* (pp. 1-5). IEEE.
4. Kumar, M. A., Telagam, N., Reddy, D. S., Kumar, R. Y., Sushmitha, S., & Muskan, S. (2022, November). Smart Wearable Glove for the Visually Impaired Person as a Third Eye. In *2022 IEEE 19th India Council International Conference (INDICON)* (pp. 1-5). IEEE.

5. A. Kumar, R. Kumar, M. Chandra and K. Kishore, "Study of under-water Sonar System for change in propagation speed, depth of water, bottom loss and estimating optimal PDFs," 2023 6th International Conference on Information Systems and Computer Networks (ISCON), Mathura, India, 2023, pp. 1-6, doi: 10.1109/ISCON57294.2023.10112071.
6. Dr. Titisha Chakraborty and Dr. Munmun Das participated in the International Conference on Women in Electrochemistry (ICWEC) 2023, organised by the Electrochemical Society of India at IISC Banglore, from 7th -8th April 2023.

BOOK CHAPTERS

1. Telagam, N., Kandasamy, N., & Ajitha, D. (2023). Smart Healthcare Monitoring System Using LoRaWAN IoT and Machine Learning Methods. In Practical Artificial Intelligence for Internet of Medical Things (pp. 85-104). CRC Press.
2. Jeet Ghosh., Padmaja Bikkuri.(2023). Implantable Antennas for Bio telemetry applications: Internet of Things Enabled Antennas for Biomedical Devices and Systems (Praveen K. Malik Ed) ISBN 978–981–99–0211–8 Springer.

ARTICLE

Kandhway, P. (2023). An adaptive low-light image enhancement using canonical correlation analysis." *IEEE Transactions on Industrial Informatics*, 19 (9), 9757-9765.

Abstract: Images captured under low-illumination conditions exhibit numerous unwanted appearances such as color distortion, low brightness, a narrow gray range, low contrast, and considerable noise. An excellent low-light image enhancement framework overcomes all undesirable attributes of low-light images. Here, a new fusion technique is introduced based on the canonical correlation analysis of two proposed adaptive Retinex and beta-hyperbolic secant distribution (BHSD) models. First, an adaptive enhanced reflectance image is obtained by a new weighted multiscale Gaussian function and proposed adaptive reflectance map. For the second enhanced image, logarithmic image processing is modified according to the illuminance's factor, and the exponential function is incorporated for contrast boosting. The error function is used for the modified cumulative distribution function of BHSD to obtain the second enhanced image. The proposed framework is compared with state-of-the-art low-light methods for visual and parametric comparison. The results show that the designed framework produces the best results in terms of high contrast, natural brightness, vivid color combination, perfect structure, and texture information with preserving naturalness. Among all comparable methods, the designed technique produces a good result in terms of rich scene details and color reproduction in dark regions.

ACHIEVEMENTS & ACTIVITIES

- Dr Arun Kumar received a grant of Rs-5000 from the Karnataka State Council for Science and Technology for the project titled “Human Follower.” Dr Arun Kumar and a team of students S Mukan, Sai Susmitha, K Harsha Vardhana Reddy and K Sai Ganesh completed the project successfully from April -June 2023.
- Mr Girish Shankar Mishra and Chethan S attended a workshop titled “Analog and Mixed Signal Design using Synopsys Tools” organised by VNRVJIET Hyderabad, in collaboration with Synopsys company in hybrid mode from June 26th 2023 (Monday) till June 30th 2023 (Friday)
- Mr Lokeswarao attended a faculty development programme titled “Practical Foundation to Electric Vehicle Technology & Subsystems” organised by Decibels Lab Pvt Ltd in Bangalore from 29/06/2023 - 30/06/2023

- Mr HJ Jayatheertha has successfully completed the 2-day workshop on “Driving Learning Outcomes through Online and Blended Learning” conducted by Coursera for Campus in March 2023.
- Mr HJ Jayatheertha, Department of EECE, GITAM, Bangalore, for participating in the two-day workshop entitled “ Electrical Machine Modelling and Analysis using ANSYS software for electric vehicles, organised by the department of Electrical, Electronics and Communication Engineering, GITAM School of Technology, Visakhapatnam on June 15th & 16th,2023.
- On 14th June 2023, GitHub Community, Gitam conducted the ‘GITHUB Orientation’. The event started with an introduction speech by the President, Monisha Yalavarthi, followed by Vice-President Bangalore Mathew K Sojan, Vice-President Visakhapatnam Sushanth Inampudi and Vice-President Hyderabad Chaitanya Sai Vengali sharing their insights to all the participants. The orientation was held in order to understand the working of Github Gitam’s mission and responsibilities and other activities organized by the club.
- SHORE 2023 is a festival of the GITAM family that brings together the best of the best talents from all across three campuses of GITAM, Bengaluru, Hyderabad and Visakhapatnam, Hyderabad & Bengaluru, on one stage at Visakhapatnam for three days between the 3rd to 5th of February 2023. The Shore Fest ‘23 is based on the theme of the Sustainable Development Goals set by the United Nations that aims to make the world a better place to live in.
- MAD 2.0 is an event conducted by the team Kalakrithi Bangalore on 24th FEB 2023.The event was conducted in Shivaji auditorium and students from the campus actively participated in the event. The main objective of this event is to bring out the competitive spirit among the students by showcasing their talent of Music, Art and Dance.
- On 24th December 2022, GQC held a quiz event, an educational and entertaining quiz on the topic "Sports." The quiz was open to all the students across three campuses: Vizag, Hyderabad, and Bangalore. Participants registered for the event using the Google Meet link. The GQC Quiz began with everyone being greeted warmly. The Quizmasters team's K Divyanand hosted the quiz.
- ACM, GITAM had conducted the "Code Nova event in honor of Engineers Day. The event was held in 2 Labs of ICT Bhavan; the event has allowed the students to enhance their technical proficiency. This specific event made participants improve their technicality based on time management. The event was organized on 12/09/2022 from 09.00 AM to 12.00 PM offline.

MESSAGES

Dear Readers,

As the primary liaison between mentors and GCGC, I oversee the mentoring process at our institute, regularly meet with Institutional Mentors and the GCGC team to track progress and provide mentoring guidelines. I ensure mentors complete key tasks, such as MDP follow-up and student assessments, and maintain rapport with mentors to review their interactions with mentees. Additionally, I audit mentoring schedules for consistency, share updates from GCGC, help resolve mentoring challenges, and address any gaps using campus resources. Working closely with institution heads, I support effective mentor-mentee mapping and adapt to evolving needs within the mentoring system.

Girish Kumar Mishra, Mentor Coordinator (EECE, Civil, Mechanical), Asst. Professor, EECE

Message from a Student:

I don't know anything about my college. Then, I have decided to join in GITAM University which is in Bangalore. I pursued EEE branch over there. University allotted a mentor for me, and my mentor Mr. Chetana helped me a lot for various activities making many projects, events, etc,. And also, my mentor helps me out from many situations like date extension to submit assignments and reconducting of mid exams because of health issues. My mentor always make us to go in a correct way and we always approached our mentor without any fear, and we'll talk with him in friendly manner. And also my mentor always takes our records and help's us to make a professional route to develop in that course. Mr. Chethana S (my mentor) puts his full efforts and always encourages us for everything to reach goal of everyone. Actually, at starting when I have joined my college, I don't know anything and at end of my 1st semester, they have allotted me mentor and then mentor helped me out from many situations. I am so thankful to GITAM and my mentor making me so brightfull and taught me many things to reach my goal with the help of mentoring meeting.

Yaswanth, 3rd Year, ECE

Message from the Editorial Board

We are excited to present Volume 2 and Issue 2 of our department's newsletter. This edition reflects the vibrant spirit and commitment of the Electrical, Electronics, and Communication Engineering community. Inside, you'll find updates on groundbreaking research, innovative projects, and notable achievements by our faculty and students. We've also included insights into recent events and initiatives that showcase our department's dynamic progress. We hope this newsletter serves as a source of information and inspiration. Your continued support, feedback, and involvement are greatly appreciated as we strive to advance knowledge and foster innovation.