

February 2024 (AY2023-24)

Newsletter



Symbiosis Institute of Technology, Pune

Symbiosis International (Deemed University), Pune

Electronics and Telecommunication Engineering Department

Department Vision:

To emerge as a leading source for Electronics and Telecommunication engineering, fostering globally proficient engineers to meet the demands of evolving industry and society.

Department Mission:

- **M1:** Foster collaboration with industry to facilitate the acquisition of cutting-edge technologies and contribute to the generation of up-to-date knowledge, enhancing employability and sustainability.
- **M2:** Encourage innovation, research, and development, creating an environment conducive to higher education, entrepreneurship, and lifelong learning.
- **M3:** Cultivate leadership qualities infused with social and ethical values, providing a platform for their development.

Program Educational Objectives (PEOs):

- **PEO1:** Graduates will possess a strong foundation in science and engineering fundamentals, along with analytical skills to effectively solve real-world problems.
- **PEO2:** Graduates will gain technical proficiency in Electronics and Telecommunication fields and scale new heights in profession through lifelong learning.
- **PEO3:** Graduates will embrace professionalism, ethical conduct at all levels and constantly evolve in a multidisciplinary approach leading towards sustainability.
- **PEO4:** Graduates will leverage their engineering knowledge, effective communication skills, leadership qualities, and teamwork spirit to serve society and contribute positively to their community.

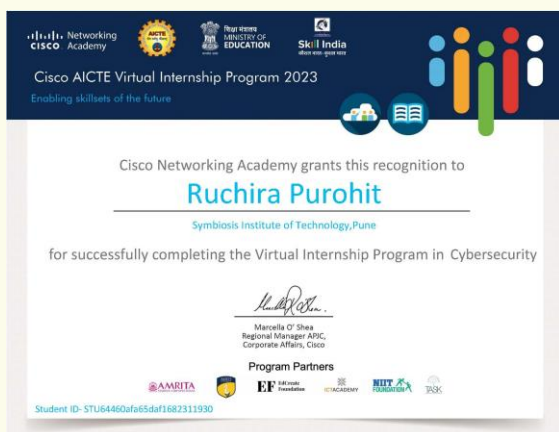
Student Participation:



Vedanti Arekar from the third year participated in the 15th Soft Computing and Pattern Recognition organized by Scientific Network for Innovation and Research Excellence, Auburn, Washington, USA



Ruchira Purohit enthusiastically participated and completed the University of Auckland virtual Microinternship 2023.



Ruchira Purohit has participated and completed the Cisco AICTE Virtual Internship Program 2023.



Prashik Maghade has received 3rd price Symbi got talent conducted by Symbiosis Institute of Digital & Telecom Management (SIDTM), Pune

Guest Lectures:

The Department of Electronics and Communication Engineering has organized a series of illuminating industry guest lectures, strategically designed to elevate the educational experience of our students.



Prof. (Dr.) Somak Bhattacharya, Indian Institute of Technology (BHU) Varanasi, delivered an insightful lecture focused on "Recent Advancement in High Frequency Applications".



Mr. Abhijeet Deogirikar, founder, Coppercloud Pvt. Ltd, skillfully guided a practical session "IoT Foundation".



Mr. Shridhar Dudam, CTO, Smart Logic Technologies Pvt Ltd Pune, enlightened the students with his expertise on the subject of "PIC18 microcontroller real world interfacing".

Industrial Visits:

Industrial Visit to GMRT

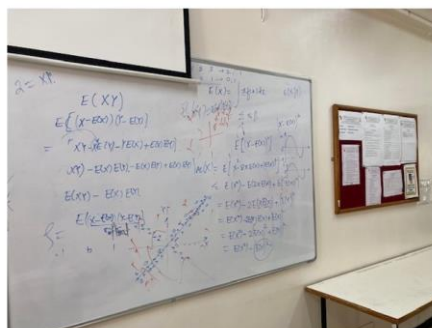


Industrial Visit to C4i4 Lab



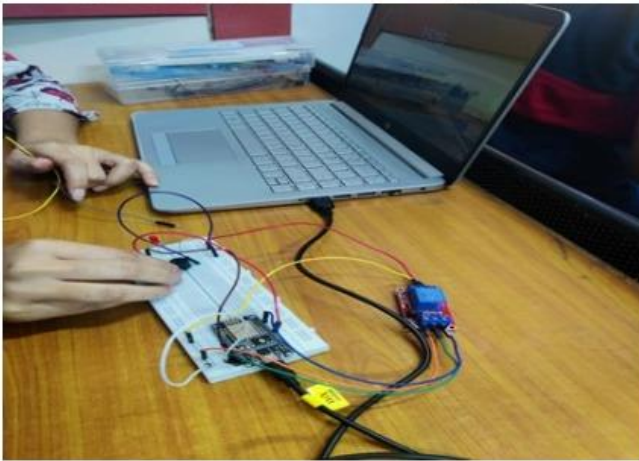
Value added course:

Electronics and Telecommunication Engineering department has offered "Applications of Pattern Recognition", as the value added course in AY 2023-24 (Odd Semester). The course objectives are threefold. Firstly, to impart knowledge on various classical techniques of pattern recognition. Secondly, to familiarize students with multiresolution methods for pattern analysis. Lastly, to offer hands-on training in pattern matching and classification utilizing geospatial data, ensuring a comprehensive understanding of the diverse aspects of pattern recognition.



Student Development Program (January 2024):

The E&TC Department has scheduled a Student Development Program for Second and Third Year students during the initial week of January 2024. Second-year students have participated in training sessions focused on 'Electronic Engineering Tools and Techniques.' The program includes hands-on training in Simulink and Hardware Interfacing, Communication Systems, and the practical aspects of connecting circuits with sensors and actuators using Arduino.



Tinkering in E&TC Department

In our Electronics and Telecommunication Engineering Department, we have an exciting place called the Tinker Lab. It's like a playground for trying out new ideas and cool things. Here, you can use the latest tools and gadgets to turn your creative thoughts into real stuff. It's a place where you can learn by doing and make your own projects. With helpful teachers around, you can have fun while learning and making cool things in the world of electronics and communication.



AICTE MITACAS Global Link Research Internship

Steve Francis and Abhishek Singh from E&TC 2021-25 batch has been selected for prestigious AICTE MITACAS Global Link Research Internship. The AICTE-MITACS GRI Program is open to Science, Technology, Engineering and Mathematics (STEM) disciplines.



Steve Francis

Abhishek Singh

IEEE Region 10 Young Professionals UpSkill 2023 – Bombay

The IEEE Region 10 Young Professionals UpSkill 2023 – Bombay was held at the Symbiosis Institute of Technology Student Branch (STB13901) on the 04th and 05th of August 2023 and was specifically designed for young individuals. It featured enlightening sessions focused on subjects like design, IoT, and Entrepreneurship, all customized to cater to the unique interests and requirements of the attendees. The highlight of the event was IdeaThon 2023, a significant platform that allowed these youthful minds to exhibit their inventive ideas and problem-solving abilities. This event proved to be an invaluable experience for the upcoming generation of professionals and entrepreneurs.



IEEE FOLDSCOPE Workshops

The IEEE Student Branch (STB13901) at Symbiosis Institute of Technology, in collaboration with the IEEE Education Society Young Professionals Global team, is conducting nationwide workshops for school students on health, hygiene, and technology awareness using FOLDSCOPE. These workshops aim to introduce students to the innovative Foldscope technology, bridging the gap between traditional microscopes and Foldscopes through hands-on experience. Sponsored by the IEEE Pune Section, IEEE Bombay Section, and IEEE SIT SBC, these workshops are part of the IEEE Education Society YP STEM & Childcare Program under the AP-Sight Project/COPE initiative. As of February 13th, 2024, over 1170+ students have benefited from these workshops.



Research publications:

- P. Shah, R. Sekhar, D. Sharma, H.R. Penubadi, Fractional order control: A bibliometric analysis (2000–2022), *Results in Control and Optimization*, 14 (2024).
- S.Q. Salih, R. Sekhar, J.F. Tawfeq, A. Ibrahim, P. Shah, A.D. Radhi, Integrated Digital Signature Based Watermarking Technology for Securing Online Electronic Documents, *Fusion: Practice and Applications*, 14 (2024) 120-128.
- A. Dodia, S. Kumar, R. Rani, S.K. Pippal, P. Meduri, EVATL: A novel framework for emergency vehicle communication with adaptive traffic lights for smart cities, *IET Smart Cities*, 5 (2023) 254-268.
- A. Kumar, A. Jain, N. Gupta, Optimal design and performance assessment of CH₃NH₃SnBr₃ lead-free perovskite solar cells for > 24% efficiency, *Indian Journal of Physics*, 97 (2023) 3447-3457.
- R.H. Jin, L.N. Shi, A. Jain, Z.H. Ren, Y.Q. Guo, F.G. Chen, Y.G. Wang, Novel lead-free KNN-based ceramic with giant energy storage density, ultra-high efficiency and excellent thermal stability via relaxor strategy, *Journal of Alloys and Compounds*, 976 (2024).
- A.S. Dixit, S. Kumar, M. Abegaonkar, A corrugated and lens based miniaturized antipodal Vivaldi antenna for 28 GHz and 38 GHz bands applications, *Frequenz*, 77 (2023) 475-484.
- K.M. Prasad, G. Nagababu, H.K. Jani, Enhancing offshore wind resource assessment with LIDAR-validated reanalysis datasets: A case study in Gujarat, India, *International Journal of Thermofluids*, 18 (2023).
- R. Aluvalu, K. Aravinda, V.U. Maheswari, K.A.J. Kumar, B.V. Rao, K.M.V.V. Prasad, Designing a cognitive smart healthcare framework for seizure prediction using multimodal convolutional neural network, *Cognitive Neurodynamics*, (2024).
- P. Mishra, P. Thakur, G. Singh, Performance Analysis of Cellular Internet of Things Using Cognitive Radio, in: *Internet of Things*, 2024, pp. 185-199.
- C.R. Bhukya, P. Thakur, B.R. Mudhivarthi, G. Singh, Cybersecurity in Internet of Medical Vehicles: State-of-the-Art Analysis, Research Challenges and Future Perspectives, *Sensors*, 23 (2023).
- T. Rathod, V. Patil, R. Harikrishnan, P. Shahane, Multipurpose deep learning-powered UAV for forest fire prevention and emergency response, *HardwareX*, 16 (2023).
- R. Swarnkar, H. Ramachandran, S.H.M. Ali, R. Jabbar, A Systematic Literature Review of State of Health and State of Charge Estimation Methods for Batteries Used in Electric Vehicle Applications, *World Electric Vehicle Journal*, 14 (2023).
- M. Devaerakkam, K.N. Raghavan, G.K. Prince, M.J.K. Alphonse, S. Annadurai, H. Ramachandran, Ascendancy of level in nonlinear tank system by neuro controller, *Results in Control and Optimization*, 12 (2023).
- A. Pathak, C.K. Choubey, Synthesis of Power Line Notch Filter in Wearable Biomedical Devices for Wireless Body Area Network, *Mathematical Modelling of Engineering Problems*, 10 (2023) 1842-1848.
- N.K. Misra, B.K. Bhoi, S.R. Kassa, Utilizing a Novel Universal Quantum Gate in the Design of Fault-Tolerant Architecture, *Nano Communication Networks*, 39 (2024).
- G. Giri, K. Chakate, D. Reddy, P. Mohite, M. Cajee, S. Bhosale, S. Kothari, Enhancement of Data Security for Cloud Computing with Cryptography Techniques, in: *Lecture Notes in Networks and Systems*, 2024, pp. 311-320.
- S. Kaur, S. Ralhan, M. Singh, M. Singh, Optimizing Power Management in Distribution Networks: A Mathematical Modeling Approach for Coordinated Directional Over-Current Relay Control, *International Journal of Advanced Computer Science and Applications*, 14 (2023) 397-408.
- S. Basak, H. Agrawal, S. Jena, S. Gite, M. Bachute, B. Pradhan, M. Assiri, Challenges and Limitations in Speech Recognition Technology: A Critical Review of Speech Signal Processing Algorithms, Tools and Systems, *CMES - Computer Modeling in Engineering and Sciences*, 135 (2023) 1053-1089.
- S. Hudnurkar, N. Rayavarapu, On the performance analysis of rainfall prediction using mutual information with artificial neural network, *International Journal of Electrical and Computer Engineering*, 13 (2023) 2101-2113.
- K. Kumar, A. Kumar, V. Kumar, A. Jain, S.C. Sharma, Ambipolarity Suppression of Band Gap and Gate Dielectric Engineered Novel Si_{0.2}Ge_{0.8}/GaAs JLTFT Using Gate Overlap Technique, *Silicon*, 15 (2023) 7837-7854.

Placement details:

Students of 2020-24 has been placed in various reputed companies, such as Triology Innovations, Alliance Bernstein, Nomura, Sciative, PhonePe, Stonex, Bajaj group, JM Finance, Deloitte, Future first, KPIT Technology, Oracle Financial Services, FYNDNA Techcorp Pvt. Ltd., IBM ISL, Mastek, Principal Global finance, Harman by Samsung, Bristlecone, Fortytwo labs, Philips India, IBM Consulting, MIQ digital, A P Moller, Visteon Corporation, Tresvista, Nvidia, GE Appliances, etc.

Here are a few noteworthy placement highlights.

- Naval Kshirsagar, Nikam Parth Satish, and Tanya Singh secured a whopping Rs. 22,50,000/- annual package with PhonePe.
- Arzoo A Lakhani, Hanupriya Deora, Manasvini Vaya, Pandit Anoushka Manish, and Eshita Vijay secured Rs. 14,00,000/- annual package with Phillips India.
- Dhruv Shrivastava and Aditya Prakash received Rs. 13,54,000/- package from Nomura.
- Avinash Shukla and Pranay Panigrahi secured Rs. 12,81,000/- annual package with Bajaj Financial Securities.

Students corner

I express sincere gratitude for the myriad opportunities that SIT has bestowed upon me. In particular, the enriching 6-month internship has played a pivotal role in expanding my perspectives and providing invaluable insights into the professional realm. The campus pulsates with a lively and invigorating ambiance. The accolades for the university's triumphs are rightfully attributed to the dedicated instructors whose exemplary teaching methodologies and practical wisdom have significantly bolstered my confidence for career advancement. The university's commendable open-door policy, facilitating questions at any time throughout the day, has been instrumental in enhancing my understanding of the subject matter and refining my logical thinking. The memories crafted during this remarkable intellectual journey are indelible, and there is a perpetual yearning to revisit the glorious years of my SIT ENTC experience.

Arjit Singh, E&TC, 2019-23 Batch