



# TECH TIMES

NEWSLETTER

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DEPARTMENT

**IT**

## VISION

To promote the advancement of learning in Information Technology through research oriented dissemination of knowledge which will lead to innovative applications of information in industry and society.

## MISSION

### Editors:

1. Smt. Sanchita Saha Ray,  
Assistant Professor,  
IT

2. Dr. Arindam Chakravorty,  
Assistant Professor,  
IT

3. Ms. Anshika Agarwal  
B. Tech, 2<sup>nd</sup> Year,  
IT, student

- To incubate students grow into industry ready professionals, proficient research scholars and enterprising entrepreneurs.
- To create a learner- centric environment that motivates the students in adopting emerging technologies of the rapidly changing information society.
- To promote social, environmental and technological responsiveness among the members of the faculty and students.

## Departmental Milestones

### For Information and Feedback Contact:

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### I. Best Performance in Odd Semester University Examination:

- **Munazzah Zainab, Esha Nandi, Ankona Sengupta**, 4<sup>th</sup> Year, 1<sup>st</sup> Semester, SGPA 10
- **Srishti Ganguly, Shirsa Nandi**, 3<sup>rd</sup> Year, 1<sup>st</sup> Semester, SGPA 10
- **Anshika Agarwal, Rishav Pandey, Anupam Samanta, Anvesha Kayal, Jaya Chaubey, Jaydip Bose, Kausani Das**, 2<sup>nd</sup> Year, 1<sup>st</sup> Semester, SGPA 9.86
- **Abhishek Chaudhury, Payel Saha**, 1<sup>st</sup> Year, 1<sup>st</sup> Semester, SGPA 9.94

### II. NPTEL

#### A. Results – January-June

Students: 23 (Elite – 12, Elite + Gold – 2, Elite + Silver – 1, Topper - 2)

Faculty Members: 1 (Elite + Silver – 1)

#### B. NPTEL Toppers

Students:

- **Shreyansh Sahu**, 2<sup>nd</sup> year, Topper in the course "*Programming, Data Structures and Algorithms Using Python*".
- **Aniket Dutta**, 1<sup>st</sup> year, is a Topper in the course "*The Joy of Computing using Python*".

Faculty Member:

- **Dr. Nilanjana Karmakar** has received Elite+Silver in the course "*Psychology of Stress, Health and Well-being*".

### III. Other MOOCs courses

Students have completed 6 courses from Coursera, 5 courses from Udemy and 1 course from Oracle.



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## IV. Online courses, FDPs, Seminar, Workshop attended by Faculty Members:

- Smt. Sanchita Saha Ray, Dr. Arindam Chakravorty and Smt. Aditi Bal have attended 5-day (online) FDP on “*Inculcating Universal Human Values in Technical Education*” organized by All India Council for Technical Education (AICTE) from 19<sup>th</sup> -23<sup>rd</sup> April, 2021.
- Ms. Subhashree Basu has attended a Short Term Training Programme through ICT Mode on “*Data Analysis using MATLAB*” organised by NITTTR from 25<sup>th</sup> – 29<sup>th</sup> January, 2021.
- Dr. Arijit Ghosal has attended an Online FDP on “*Entrepreneurship, Innovation and Capital Venture (EICV 2021)*” during 18<sup>th</sup> – 25<sup>th</sup> February, 2021.

## V. Technical Talk

- Dr. Ranjit Ghosal spoke at AICTE sponsored STTP (Phase I and III) on “*Machine Learning and Pattern Recognition Applications*”, organized by the department of Information Technology, St. Thomas' College of Engineering & Technology, (November 2-7, 2020 & December 14-19, 2020, respectively).
- Dr. Ranjit Ghosal spoke at AICTE sponsored STTP (Phase II) on “*Machine Learning and Pattern Recognition Applications*”, organized by the department of Information Technology, St. Thomas' College of Engineering & Technology, (November 23-28, 2020).
- Dr. Arijit Ghosal spoke at AICTE sponsored STTP (Phase I and II) on “*Machine Learning in Audio Data Analysis*”, organized by the department of Information Technology, St. Thomas' College of Engineering & Technology, (November 2-7 & November 23-28, 2020, respectively).
- Dr. Arijit Ghosal spoke at AICTE sponsored STTP (Phase III) on “*Introduction to Machine Learning through Analysis of Audio Data*”, organized by the department of Information Technology, St. Thomas' College of Engineering & Technology, (December 14-19, 2020).

## Publication Details

### I. Journal Publications

1. S. Saha Ray, S. Ghosh and B. Sardar, “*Memory Efficient Hash-Based Longest Prefix Matching Architecture with Zero False +ve and Nearly Zero False -ve Rate for IP Processing*,” in *IEEE Transactions on Computers*, doi: 10.1109/TC.2021.3080184. 2021.
2. A. Sarkar, S. Ghosh & S. Saha Ray (2021) “*A Hardware-Based Memory-Efficient Solution for Pair-Wise Compact Sequence Alignment*”, *IETE Journal of Research*, DOI: 10.1080/03772063.2021.1914200. Published online: 23 Apr 2021
3. Ranjit Ghosal, Aditya Saha, Sayan Das, “*A new image binarization technique for segmentation of text from digital images*”, *International Journal of Advanced Intelligence Paradigms (IJAIP)*, <https://doi.org/10.1504/IJAIP.2021.114585>, Volume 19, No. 1, pp. 84-100, 2021. Published online 8 April 2021.

### II. Conference Publications

1. Sumit Mukherjee, Ranjit Ghosal, Pinaki Pal, Kaustuv Nandy and Bibhas Chandra Dhara, “*Retinal Vessel Identification using 2-level Synthesis and Noise Correction Method*”, 2<sup>nd</sup> International Conference on Advanced Computing and Applications (ICACA'21), 27<sup>th</sup> -28<sup>th</sup> March, 2021.
2. Suchibrota Dutta, Ranjit Ghosal and Arijit Ghosal, “*Voice Based Detection of Speaker Gender through Co-occurrence Matrix Based Features*”, 3<sup>rd</sup> International Conference on Computational Intelligence and Pattern Recognition (CIPR'21),



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3. Sumit Mukherjee, **Ranjit Ghoshal** and Bibhas Chandra Dhara, “*An Effective Vessel Network Identification Scheme using Multilevel Attribute Analysis*”, 3<sup>rd</sup>International Conference on Computational Intelligence and Pattern Recognition
4. Sumit Mukherjee, **Ranjit Ghoshal** and Bibhas Chandra Dhara, “*Tiny Vessels Exploration in Retinal Image using BFS Influenced Flood Filling*”, 6<sup>th</sup>International Conference on Emerging Applications of Information Technology (EAIT'21)
5. **Arijit Ghosal** and **Ranjit Ghoshal**, “*Co-occurrence Based Approach for Differentiation of Speech and Song*”, Intelligent Computing and Technologies Conference (ICTCon2021).
6. **Subhashree Basu**, Malay Kule, Hafizur Rahaman, “*Detection of Hardware Trojan in Presence of Sneak Path in Memristive Nanocrossbar Circuits*”, International Symposium on Devices, Circuits and Systems (ISDCS), 2021.

## International Book Chapter

1. Bhattacharya, A., **Ghosal, A.**, Obaid, A. J., Krit, S., Shukla, V. K., Mandal, K., & Pramanik, S. (2021). “*Unsupervised Summarization Approach With Computational Statistics of Microblog Data*”, Methodologies and Applications of Computational Statistics for Machine Intelligence, IGI Global, pp. 23-37.
2. Debnath, O., Saha, H. N., **Ghosal, A.** (2021). “*External Threat Detection in Smart Sensor Networks using Machine Learning Approach*”, Smart Sensor Networks: Analytics, Sharing and Control (SSNASC), Springer. (In Press)