



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

- 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.

Recent Technology Trend

Along with Artificial Intelligence (AI) and Machine Learning (ML) another emerging technology that is automating daily business operations is Robotic Process Automation (RPA). RPA is the use of software technology to automate business processes including interpreting information and applications, transaction processing, communication through mails, extract and process structured and semi structured content from electronic documents such as doc and pdf files, manage files and folders, etc. RPA is fast proving to be a helpful tool in back office management, achieving faster return on investment, improve front office customer service in almost all sectors including manufacturing industry, banking and financial sectors, education, telecommunication and healthcare. There are quite a few training programmes on RPA that are on offer by various institutes.

Dr. ArindamChakravorty
Assistant Professor, IT

Departmental Milestones

I. Enrollment in NPTEL Courses

A total of 65 students have enrolled in 237 courses being offered by NPTEL. A total of 7 members of the faculty have enrolled in 50 courses being offered by NPTEL

A. Results – December 2020 Examination

Students:29 (Elite – 13, Elite + Silver – 9, Elite + Gold – 4, Topper – 3)

Faculty Members:3 (Elite – 1, Elite + Silver – 2, Topper – 1)

B. NPTEL Stars, Toppers, Gold, Silver

Students:

- **DebarghaGhosh, 3rd year, Topper** in course "**Technical English for Engineers**" with**Elite+Silver**certificate and received **Elite+Gold**certificate in course "**The Joy of Computing using Python**".
- **DebarghaGhosh, 3rd year,**certified as**NPTEL_BELIEVERS**and**NPTEL_DISCIPLINE_STARS**.
- **Jaydip Bose, 2nd year, Topper** in course "**Social Networks**" with **Elite+Gold** certificate and **Harish Sadani, 2nd year, Topper** in course "**Technical English for Engineers**" with**Elite+Gold** certificate.

Editors:

1. Smt. SanchitaSaha Ray,
Assistant Professor,
IT

2. Dr. ArindamChakravorty,
Assistant Professor,
IT

3. Mr. AnanwayGhatak,
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- **LakhaRahman**, 2nd year, received **Elite+Gold** certificate in course *“The Joy of Computing using Python”*.
- **Awritrojit Banerjee** and **Mainak Sur**, of 3rd year, received **Elite+Silver** certificates.
- **DhirajOjha**, **SubhashreeMitra**, **Kausani Das**, **AnirudhaParui**, **Pragya Joshi** and **Raj Laxmi** of 2nd year, received **Elite+Silver** certificates in different courses.

Faculty Member:

- **Dr. ArindamChakravorty**, certified as **NPTEL_DISCIPLINE_STARS**.

II. Webinars Organized

- The department held a webinar under Pragati on *Recurrence Relations and Recursion* on July 6, 2020. Dr. ArindamChakravorty spoke at the webinar.
- The department arranged a webinar on *Machine Learning Approaches Towards Fighting COVID – 19*, July 27 – 29, 2020, for students of second year. Prof. (Dr.) Elizabeth Behrman, Wichita State University, Kansas, USA was the key speaker in the webinar. The other speakers were Dr. RanjitGhoshal, Dr. ArijitGhosal and Ms. AditiBal.
- The department arranged a webinar on *Database Management Systems* during August 13 – 14, 2020 for students of second and third years. Dr. ArindamChakravorty and Smt. Sanchita Saha Ray spoke at the webinar.

III. AICTE sponsored STTP Organized:

- Department has organized AICTE sponsored Short Term Training Programme (SSTP- Phase I, Phase II and Phase III) on *“Machine Learning and Pattern Recognition Applications”*, during November 2-7, 2020, November 23-28, 2020 and December 14-19, 2020, respectively.

IV. Fund received from AICTE to conduct STTP:

- Department received **Rs. 3,58,333/-** (Rupees Three Lakh Fifty Eight Thousand Three Hundred Thirty Three only) from AICTE for conducting Short Term Training Program (STTP). Coordinator Dr. RanjitGhoshal.

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

- **Mr. AmitDutta** attended two STTPs, *“Leadership and Team Building in Academia (ICT124)”* and *“Fundamentals of OBE”*, organized by NITTTR, Kolkata, from September 21 – 25, 2020 and August 31 to November 4, 2020 respectively.
- **Dr. ArijitGhosal** has attended the following online courses and FDPs:
 - 5 Day International FDP on *Emerging Trends in Sensors, Security and Smart Automation Systems*, organized by Department of Electrical Engineering, B.P. Poddar Institute of Management & Technology, West Bengal (July 8-12, 2020).
 - FDP on *“Internet of Things for Intelligent Systems”*, organized by Center for Continuing Education & Department of Computer Science and Engg., NIT Warangal (July 20-24, 2020).
 - AICTE Training And Learning (ATAL) Academy Online FDP on *“Internet of Things (IoT)”*, organized by Central University of Jharkhand (Sept 14-18, 2020).
 - International Online Workshop on *Combating COVID-19: It's time to Respond with Resilience*, organized by Department of Information Technology and Department of Chemistry National Institute of Technology, Raipur, Chhattisgarh, India (June 30 – July 04, 2020).



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- *Exploring Potential: STC on 2020 research advances towards generating leading investigators*, organized by Dr B R Ambedkar National Institute of Technology Jalandhar (Aug 24-28, 2020)
- “*Soft Computing Techniques and Its Applications*” organized by Dr B R Ambedkar National Institute of Technology Jalandhar (Aug 29 – Sept 2, 2020).
- “*STC on Machine Learning: Theory and Applications*”, (MLTA-2020) , organized by Dr B R Ambedkar National Institute of Technology Jalandhar (Sept 9-13, 2020).
- **Smt. Aditi Balhas** attended a two-week online FDP, “*Wireless Communication Technologies for IoT*” jointly organised by Electronics and ICT Academies held, 27 July to 7th Aug, 2020 under the “Scheme of financial assistance for setting up of Electronics and ICT Academies” of the Ministry of Electronics and Information Technology (MeitY), Government of India.
- **Dr. Ranjit Ghoshal** has attended **two STTPs**, ICT Mode STTP on “*Pattern Recognition: Theory and Applications*”, 20.07.2020 to 24.07.2020 (1 week) and ICT Mode STTP on “*Data Science with R Programming*”, 10.08.2020 to 21.08.2020 (2 week), both organized by NITTTR, Kolkata.
- **Dr. Arindam Chakravorty**, attended FDP on “*Introduction to Soft Computing*”, organized by the NPTEL (January – April, 2020) and appeared in the examination held in December 2020, placed among toppers, received **Elite + SILVER** certificate.
- **Dr. Arindam Chakravorty** has attended FDP on “*Design & Analysis of Algorithms*”, organized by the NPTEL (September - November 2020) and appeared in the examination held in December 2020, received **Elite + SILVER** certificate.
- **Dr. Arijit Ghosal** has attended FDP on “*Entrepreneurship and IP strategy*”, organized by the NPTEL (September - November 2020) and appeared in the examination held in December 2020, received **Elite** certificate.
- **Smt. Sanchita Saha Ray, Dr. Ranjit Ghoshal and Dr. Arijit Ghosal** have attended FDP on “*Internet of Things (IoT)*”, (December 1-5, 2020), organized by the department of Electronics and Communication, St. Thomas' College of Engineering & Technology.
- **Subhasree Basu**, attended **AICTE sponsored Short Term Training Programme (STTP- Phase II, November 11-12, 2020)** and **Dr. Arindam Chakravorty, Dr. Nilanjana Karmakar, Smt. Ranjita Chowdhury and Sk Latib** attended **AICTE sponsored STTP (Phase III, December 14-19, 2020)** on “*Machine Learning and Pattern Recognition Applications*”, organized by the department of Information Technology, St. Thomas' College of Engineering & Technology.
- **Dr. Arindam Chakravorty** attended a Webinar, “*Outcome Based Education and Accreditation for the Engineering Colleges in West Bengal*”, organized by MAKAUT, on **December 15, 2020**.
- **Dr. Ranjit Ghoshal** attended a national Webinar, “*Ancient Indian Education System*”, organized by NITTTR, Kolkata, (**November 11-12, 2020**).

V. Technical Talk

- **Dr. Ranjit Ghoshal** 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 Ghoshal** 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**) .



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VI. Invited Talk

- **Dr. Arijit Ghosal spoke at Webinar on “Application of Machine Learning in Audio Data Analysis”, organized by Dept. of Computer Applications, Guru Nanak Institute of Technology, Kolkata.**

Publication Details

1. S. Das, S. Dutta, D. Banerjee, **A. Ghosal**⁺, “*Classification of Bharatnatyam and Kathak Dance Form through Audio Signal*”, 2nd International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2020), (July 2-4, 2020).
2. S. Mitra, B. Roy, S. Chakraborty, B. Mukherjee, **A. Ghosal**⁺, **R. Chowdhury**⁺, “*Facial Emotion Recognition for aid of Social Interactions for Autistic Children*”, 2nd International Conference on Emerging Technologies in Data Mining and Information Security (IEMIS 2020), (July 2-4, 2020) .
3. D. Banerjee, S. Dutta, **A. Ghosal**⁺, “*Automatic Gender Identification through Speech*”, in IEMIS 2020, July 2-4, 2020).
4. N. Gupta, **A. Ghosal**⁺, “*Automation of Attainment Calculation in Outcome Based Technical Education (OBTE)*”, "Computational Intelligence in Digital Pedagogy".
5. **S. Basu**⁺, M. Kule, H. Rahaman, “*Symmetric Function Based Memristive Polimino PUF with Enhanced Security*”, IEEE International Symposium on Smart Electronic Systems (iSES) 2020, pp 154-157, 2020.

International Book Chapter

1. Gupta N., Ghosal A. (2020) “*Automation of Attainment Calculation in Outcome-Based Technical Education (OBTE)*”. In: Deyasi A., Mukherjee S., Mukherjee A., Bhattacharjee A.K., Mondal A. (eds) “*Computational Intelligence in Digital Pedagogy. Intelligent Systems Reference Library*”, vol 197. Springer, Singapore. https://doi.org/10.1007/978-981-15-8744-3_6.
2. Behrman, E., Santra, A., Sarkar, S., Roy, P., Yadav, R., Dutta, S., Ghosal, A. “*Dialect Identification of Bengali Language, Data Science and Data Analytics: Opportunities and Challenges*”, CRC Press, Taylor & Francis. (In Press).