



**SYMBIOSIS INSTITUTE OF TECHNOLOGY (SIT)**

Constituent of Symbiosis International (Deemed University), Pune

(Established under Section 3 of the UGC Act of 1956 vide notification number F-9-12/2001-U-3 of the Government of India)  
Re-Accredited by NAAC with 'A' Grade

# THE BYTE BULLETIN

**THE BIENNIAL NEWSLETTER FROM THE  
DEPARTMENT OF CSE**

**EDITION: JUL - DEC 2022**

## TRENDING THIS SEMESTER

- Faculty Spotlight: CSE Department's Inspiring Innovators and Visionaries
- Rising Stars in the CSE Department: Student Success Stories
- Highlights from the Department's Engaging Activities: Events that Rocked the Semester - SymbiTech
- Tech Talks and Workshops: Providing Students with the Most Up-to-Date Industry Information
- "Hackathons and Competitions: CSE Department's Gifted Minds Display Their Talents"

Welcome to this edition of The Byte Bulletin!

This edition showcases a diverse range of cutting-edge research programs, breakthrough technologies, and revolutionary endeavors that embody the vivid and dynamic environment of the Department of Computer Science. Our eminent academic members continue to push the boundaries of knowledge in their respective fields, using their abilities to solve real-world problems and contribute to the ever-changing digital era. The students excel at numerous levels, bringing honour to their college.

The Department of Computer Science remains at the vanguard of the ever-changing technological landscape, cultivating an environment that fosters creativity, collaboration, and critical thinking. We welcome you to explore this edition and immerse yourself in the world of groundbreaking discoveries, exceptional accomplishments, and the unwavering quest of knowledge that characterizes our department. Join us as we continue to collaborate to define the future of computer science.



# VISION AND MISSION

## VISION OF THE DEPARTMENT

To evolve as a centre of excellence in Computer Science and Engineering to produce skilled and proficient global professionals to build the society.

## MISSION OF THE DEPARTMENT

- To provide the conducive environment for establishing students in the global platform of research and innovation.
- To educate students on cutting edge technologies with problem solving capabilities, leadership and teamwork skills.
- To inculcate the professional values with lifelong learning through curricular and co-curricular activities and create globally-aware disciplined citizens.
- To commence various initiatives for motivating students to work for the betterment of society.

## PROGRAM EDUCATIONAL OBJECTIVES

PEO1: Apply their skills with research orientation and establish themselves globally.

PEO2: Apply problem solving and emerging technology skills for designing solutions .

PEO3: Apply technical and leadership skills to be a successful entrepreneur.



# FACULTY'S ACHIEVEMENTS



Article

## EffResUNet: Encoder Decoder Architecture for Cloud-Type Segmentation

Sunveg Nalwar <sup>1,\*</sup>, Kunal Shah <sup>1</sup>, Ranjeet Vasant Bidwe <sup>2,\*</sup>, Bhushan Zope <sup>2</sup>, Deepak Mane <sup>3</sup>, Veena Jadhav <sup>4</sup> and Kailash Shaw <sup>2</sup>

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- <sup>3</sup> Department of Computer Engineering, JSI'M's Rajarshi Shahu College of Engineering, Pune 411033, India
- <sup>4</sup> Department of Computer Engineering, Bharati Vidyapeeth (Deemed to Be University), College of Engineering, Pune 411043, India
- \* Correspondence: sunvegnalwar7@gmail.com (S.N.); ranjeet.bidwe.phd2021@sitpune.edu.in (R.V.B.)

Prof Ranjeet Bidwe, Prof Bhushan Zope and Dr. Kailash Shaw published a paper titled EffResUNet: Encoder Decoder Architecture for Cloud-Type Segmentation.

Prof Bhushan Zope, Dr Sashikala Mishra, Dr Kailash Shaw, Dr Deepali Vora, Dr Ketan Kotecha and Prof Ranjeet Bidwe published a research paper titled Question Answer System: A State-of-Art Representation of Quantitative and Qualitative Analysis



Article

## Question Answer System: A State-of-Art Representation of Quantitative and Qualitative Analysis

Bhushan Zope <sup>1,\*</sup>, Sashikala Mishra <sup>1</sup>, Kailash Shaw <sup>1</sup>, Deepali Rahul Vora <sup>1</sup>, Ketan Kotecha <sup>2</sup> and Ranjeet Vasant Bidwe <sup>1</sup>

- <sup>1</sup> Symbiosis Institute of Technology, Symbiosis International (Deemed University) (SIU), Lavale, Pune 412115, India
- <sup>2</sup> Symbiosis Centre for Applied Artificial Intelligence (SCAAI), Symbiosis Institute of Technology, Symbiosis International (Deemed University) (SIU), Lavale, Pune 412115, India
- \* Correspondence: bhushan.zope.phd2021@sitpune.edu.in

**Abstract:** Question Answer System (QAS) automatically answers the question asked in natural language. Due to the varying dimensions and approaches that are available, QAS has a very diverse solution space, and a proper bibliometric study is required to paint the entire domain space. This work presents a bibliometric and literature analysis of QAS. Scopus and Web of Science are two well-known research databases used for the study. A systematic analytical study comprising performance



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## Multi-Ideology Multi-Class Extremism Classification Using Deep Learning Techniques

MAYUR GAIKWAD <sup>1</sup>, SWATI AHIRRAO <sup>1</sup>, KETAN KOTECHA <sup>2</sup>, AND AJITH ABRAHAM <sup>3,4</sup>, (Senior Member, IEEE)

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- <sup>2</sup>Symbiosis Centre for Applied Artificial Intelligence (SCAAI), Symbiosis International (Deemed University), Pune 412115, India
- <sup>3</sup>Machine Intelligence Research Laboratories (MIR Labs), Auburn, WA 98071, USA
- <sup>4</sup>Center for Artificial Intelligence, Innopolis University, 420500 Innopolis, Russia

Corresponding authors: Swati Ahirrao (sahirrao4@gmail.com) and Ketan Kotecha (head@scaai.siu.edu.in)

Prof Mayur Gaikwad, Dr Swati Ahirrao and Dr Ketan Kotecha published a paper titled Multi-Ideology Multi-Class Extremism Classification Using Deep Learning Techniques in IEEE Access



# FACULTY'S ACHIEVEMENTS



## A Novel Framework for Contactless diagnosis and forecasting of Cardiovascular Diseases

Fact Sheet

### Project description



#### Voice tests to assess the risk of sudden cardiac arrest

Cardiac arrest is when your heart suddenly stops pumping blood around your body. The symptoms arise suddenly and there is little time for tests. Sudden cardiac arrest is life-threatening. However, advances in technologies like contactless remote patient monitoring can help predict if (and when) someone will suffer a cardiac arrest. The Marie Skłodowska-Curie Actions project ContactlessFramework will develop a risk prediction framework, VCardiac, to diagnose and identify early stages of heart diseases and forecast cardiac conditions in advance, using the human voice. A customised dataset of 2 000 human voice samples will be designed to classify acoustic heartbeat events as normal, murmur, extra systole and artefact as well as other, unlabelled heartbeat acoustic events.

Show the project objective

### Project Information

**ContactlessFramework**  
Grant agreement ID: 101065536

DOI:  
[10.3000/101065536](https://doi.org/10.3000/101065536)

**Start date**  
1 July 2022

**End date**  
30 June 2024

**Funded under**  
Marie Skłodowska-Curie Actions (MSCA)

**Total cost**  
€ 0.00

**EU contribution**  
€ 222 727.68



Dr Sharnil Pandya has been awarded a prestigious Marie Skłodowska-Curie Postdoc Fellowship which is funded by the European Union.

## Funded Research Projects

### EXTERNAL PROJECT

Sr.No	Name of the Project	Name of the Principal Investigator/ Co Investigator (if applicable)	Name of the Funding agency	Type (Government/Non-Government)	Year of Award	Funds provided (INR in lakhs)
1	Development of real-time traffic control algorithms for unconventional intersection designs using artificial intelligence methods	Dr Ketan Kotecha (PI), Dr Rahee Walambe (Co-PI)	India-Serbia Bilateral Scientific and Technological Cooperation Scheme of DST and the Serbian Ministry of Education, Science and Technological Development	Government	2022	29.2
2	Multimodal Explainability for Object Detection and Image processing in Drone Imagery (Project No: INT/ITALY/MR/2021/71)	Dr Rahee Walambe (PI), Dr Ketan Kotecha (Co-PI)	Indo-Italy Bilateral Research Mobility Grant Scheme of DST and the Italian Ministry of Foreign Affairs	Government	2022	41.36



# STUDENT'S ACHIEVEMENTS



The team, consisting of Tanmay Yadav, Yatendra Kumar, Ruchir Mathur, Tejas Patil, Swastika Gupta, and Akash Singh, created a social networking mobile application called Tevo(2022) that allows students to share their everyday progress in career, health, or any personal interests and won the Smart India Hackathon 2022 (Software Edition)

Team Volatile Voids consisting of Yash Kashyap, Kush Garg, and Tanmay Yadav have qualified for the ICPC - International Collegiate Programming Contest 2022-23 Kanpur-Mathura Regional Final



Akshay Kushawaha and Mudit Garg under the mentorship of Dr. Deepali Vora emerged as winners at the Inter-College Project Competition hosted by MCCIA and received prize from Hon. Minister Shri Chandrakant Dada Patil

# STUDENT'S ACHIEVEMENTS



Great news! Arshdeep Singh and Akshat Sharma, final year CS/IT students, won the "Best Elevator Pitch Award" at the i-nnovate Intelliswift Hackathon 2022. Their innovative idea of decentralised messaging using Blockchain technology impressed the judges. They were awarded a cash prize of Rs 10,000. Congratulations to the entire team, and special thanks to their mentor Dr. Sonali Kothari.



Congratulations to the winning team of VoIS\_for\_Tech Innovation Marathon Harsh Chandekar and Lisanne Dlima, Final Year CSE students, and second team comprising of Mudit Garg, Akshay Kushwaha, Second Year CSE Students



# INDUSTRY CONNECT



The Department of Computer Science Engg. and AI & Machine Learning had arranged an enriching industrial visit to Tata Central Archives, Tata Management Training Centre Campus, Pune and Atreya Innovations Pvt. Ltd, Hinjewadi, Pune.

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**EC-COUNCIL | ACADEMIA**  
PARTNER

**Opportunities in Cyber Security**

**Guest Speaker**

**Pooja Joshi**  
India Director,  
EC-Council



**Saturday,**  
**8 October 2022**  
**10AM - 11AM**  
**Online Webinar**

**SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE**

**International Expert Session**

**"How Data Analytics can Improve Energy Efficiency – Case Studies"**

Organised by  
Department of CSE /IT & AIML



**Prof. Eleni Mangina**  
Vice Principal, School of  
Computer Science, Dublin

 **27th Aug 2022**  
10.30am to  
12.00 pm

 symbiosis\_sit  @SITLavale  sitpune.edu



# THE ANNUAL TECHFEST TIME

The first edition of Symbiosis Institute of Technology's national-level technical festival, SymbiTech



# THE 19TH CONVOCATION CEREMONY

Department of Computer Science Engineering was extremely happy to welcome their graduating batch of 2018-22 at the 19th Convocation Ceremony. The toppers of the batch were felicitated in presence of proud parents, faculty and staff.





# **THE EDITORIAL TEAM**

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**CHEIF EDITOR:  
DR. DEEPALI VORA**

**FACULTY EDITOR:  
PROF. RUTUJA KADAM**

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**STUDENT EDITORIAL TEAM:**

**MUDIT GARG  
MANAS GOGNA  
SAAHIL SHAIKH  
RIYA GOEL  
BHAVESH WAYKOLE**

