



VIDYA PRATISHTHAN's  
KAMALNAYAN BAJAJ INSTITUTE OF  
ENGINEERING AND TECHNOLOGY,  
BARAMATI  
NAAC 'A+' Grade



Department of Computer Engineering  
NBA Accredited

# CompBits

May 2024



# Department of Computer Engineering

## ABOUT DEPARTMENT:

The Department of Computer Engineering at Vidya Pratishthan's Kamalnayan Bajaj Institute of Engineering and Technology, Baramati. Computer engineering department is established in the year 2000. The vision of the department is to achieve excellence in field of computer engineering with consistent and collaborative efforts of every individual and the mission is to develop students with fundamental, advanced tools and technologies to work as skilled computer professionals with ethical values. Department ensure all activities to be conducted effectively and efficiently to develop and train students according to the needs of dynamically.

## VISION

To achieve excellence in field of computer engineering with consistent and collaborative efforts of every individual.

## MISSION

- To Develop students with fundamental, advanced tools and technologies to work as a skilled computer professional with ethical values.
- To promote faculties for higher education and expose them to current trends to enrich educational quality.
- To provide appropriate environment with required resources to achieve academic excellence.
- To develop hand-in-hand relations with industries for catering institute-industry needs.
- To apply collaborative efforts to make students competent to provide solutions to social problems.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

- Students will be able to apply the fundamentals, domain knowledge and modern technology of computer engineering to provide effective and innovative solutions to engineering problems.
- Students will be able to solve societal challenging and multidisciplinary problems applying suitable resources.
- Students will be able to work as competent professional as an individual and a team member.



# Principal Desk



Dr. R. S. Bichkar  
Principal,  
Dept of E & TC Engineering  
VPKBIET, Baramati.

I am delighted to learn that the Department of Computer Engineering is publishing the Dec 2024 issue of its E-Newsletter, COMPBITS.

It brings me great joy and a sense of privilege to share a few words as you explore the pages of this magazine. The Department of Computer Engineering is dedicated to empowering students to harness the best from their surroundings. The knowledge they acquire serves as a ladder, enabling them to reach greater heights and achieve remarkable success. It is often through collective efforts that aspirations are realized and innovative solutions discovered.

I am confident that the dedicated team of the Computer Engineering Department has set an inspiring example of not only fostering a land of ideas but also cultivating a forest of exceptional products.

Yours'

Dr. R. S. Bichkar

# Vice Principal Desk



Dr. S. B. Lande  
Vice Principal,  
Department of E & TC  
Engineering,  
VPKBIET, Baramati

I am delighted to announce that the Department of Computer Engineering is releasing the December 2024 issue of its technical E-Newsletter, "CompBits". This Newsletter serves as an excellent platform for faculty and students to create meaningful technical content and enhance their skills.

What makes this effort truly remarkable is its ability to showcase the diverse technical and analytical talents of budding engineers. I am pleased to invite all teachers and students to contribute to future editions, bringing forward innovative ideas and bright concepts.

I extend my best wishes to the Department of Computer Engineering for continued success in all their endeavors. My heartfelt congratulations to the Head of the Department, the Editor, and the dedicated committee for their invaluable efforts in bringing this issue to life. May this initiative not only nurture a land of ideas but also cultivate a forest of exceptional innovations.

# Faculty achievements of Computer Department





## Dr.Chaitanya Kulkarni received Acharya Award

Dr.Chaitanya Kulkarni, HoD, Computer Engg. received Acharya Award under Bharat Excellence National Education award. It was presented by the hands of Hon. Dr. Buddha Chandrashekhar Chief Coordinating officer AICTE, New Delhi and Dr. Y. V.Reddy Vice- chancellor Andhra University at Vishkapatanam.



## Dr.Trupatinanda V. Bhandare, Computer Engg. Has received PHD



**The details are as follows:**

**University Name:** Alliance University Bangalore

**Research Title:** Efficient Diagnosis and Analysis of Cardiovascular Disease through Computational Intelligence

**Publications:**

- 3 research papers indexed in Web of Science and SCOPUS
- 1 Book Chapter in CRC press Taylor and Francis
- 2 Copyrights

## Mrs. Gyankamal Chhajed awarded Ph.D



Dr. Gyankamal Jitendra Chhajed has completed Ph.D. in Computer Engineering from Bharati Vidyapeeth Deemed to be University, Pune under the guidance of Dr. Bindu Garg. Her research topic was “A Novel Approach to Data Hiding in Binary images for Secret Communication and Authentication”. During her research, she has published 2 patents, 2 free Scopus indexed International Journal papers, 4 Springer/IGI global Scopus Book chapters and presented papers in 4 International Springer/IEEE conferences.

### Journal Publication:

1. **“Hiding Data in Binary Images Using Block-Diagonal Partition Pattern”**, International Journal of Computing and Digital Systems(IJCDS) , March 2023, Vol. 13 , Issue 1, pp. 953-963 <http://dx.doi.org/10.12785/ijcds/130176> , ISSN : 2210-142X (**Scopus**)
2. **“Novel Scheme for Data Hiding in Binary Images using Cover Pattern Histogram ”**, International Journal of Engineering, Transactions B: Applications, 2023, 36(11), pp. 2124–2136 10.5829/IJE.2023.36.11B.16ISSN:1728-144X (**ESCI, WOS, Scopus**)

### Patent Publication:

1. **“A METHOD FOR SECURING DATA IN A BINARY IMAGE”**, Application number **202321081308** , Indian Patent office , Publication Date : 22/12/2023
2. **“A SYSTEM FOR HIDING DATA IN BINARY IMAGES TO PROVIDE SECRET AND SECURE COMMUNICATION”** , Application number **2023/09586** , REPUBLIC OF SOUTH AFRICA , Publication Date : 13/10/2023

### Book Chapter:

1. **“Novel Approach to Data Hiding in Binary Images Minimizing Distortion,”**. In: Smys S., Tavares J.M.R.S., Bestak R., Shi F. (eds) Computational Vision and Bio-Inspired Computing.



Advances in Intelligent Systems and Computing, vol 1318. **Springer, Singapore. June,2021**  
pp 587–598 [https://doi.org/10.1007/978-981-33-6862-0\\_46](https://doi.org/10.1007/978-981-33-6862-0_46), pp.587-598 **ISBN: 978-981-33-6861-3 (Crossref)**

2. **" Data Hiding in Binary Images for Secret and Secure Communication Using Decision Tree"**.  
In: Haldorai, A., Ramu, A., Mohanram, S., Zgheib, R. (eds) 4th EAI International Conference on  
Big Data Innovation for Sustainable Cognitive Computing. EAI/Springer Innovations in  
Communication and Computing. **Springer, Cham. Oct,2022** pp. 69-84,  
[https://doi.org/10.1007/978-3-031-07654-1\\_5](https://doi.org/10.1007/978-3-031-07654-1_5), **ISBN: 978-3-031-07653-4 , (Scopus)**
3. **"Applying Decision Tree for Hiding Data in Binary Images for Secure and Secret Information Flow,"** Cyber Security Measures for E-Government Frameworks, edited by Noor Zaman, et al.,  
**IGI Global**, 2022, pp. 175-186. <https://doi.org/10.4018/978-1-7998-9624-1.ch011> **(Crossref)**
4. **"Secure Data Hiding in Binary Images Using Run-Length Pairs"**, In: Neustein, A., Mahalle,  
P.N., Joshi, P., Shinde, G.R. (eds) AI, IoT, Big Data and Cloud Computing for Industry 4.0. Signals  
and Communication Technology. Springer, Cham. 1 Aug 23, pp. 321–333 ,  
[https://doi.org/10.1007/978-3-031-29713-7\\_18](https://doi.org/10.1007/978-3-031-29713-7_18) ,**ISBN : 978-3-031-29712-0 , ISSN: 1860-4862 ( Scopus)**
5. **"Information Security by Hiding Data in Binary Images based on Block-Diagonal Partition Pattern,"** 2022 *IEEE International Conference on Blockchain and Distributed Systems Security (ICBDS)*, **Oct, 2022**, pp. 1-6 <https://doi.org/10.1109/ICBDS53701.2022.9935958> , **ISBN:978- 1-6654-2833-0 ( Scopus,WOS)**

#### **Conference Paper Presentation:**

1. **"Novel approach to data hiding in binary images minimizing distortion"** in the 4<sup>th</sup>  
International Conference on Computational Vision and Bio Inspired Computing (ICCVBIC 2020)  
held in Coimbatore, Tamilnadu, India during 19-20, November 2020
2. **"Sparse matrix based compressed information hiding in binary images using Run-Length pairs"** in the 4th International Online conference on "Recent Trends in Engineering and Technology" , Vishwakarma Institute of Information Technology , Pune , VISHWACON 2021 , 27th and 28th November 2021
3. **Data hiding in binary images for secret and secure communication using decision tree"** in the 4th International Conference on Big Data Innovation for Sustainable Cognitive Computing (EAI BDCC 2021) , 17-18, December 2021



4. **“Information Security by Hiding Data in Binary Images based on Block-Diagonal Partition Pattern “** in the 2022 IEEE International Conference on Block chain and Distributed Systems Security (ICBDS) , track :Security and Privacy , 16-18 Sep 2022

**Other publications:**

- 1) **“Review on Intelligent billing System”**, in the 1st International Conference on Deep Learning, IoT, Drone
- 2) Technology, Smart Cities & Application (ICDIDSA-23), organized by Sandip Institute of Technology and research center , Nashik , 29-30, November 2023
- 3) **“A Review on key Algorithms for Pneumonia Detection in X-ray Images”**, in the 1st International Conference on Deep Learning, IoT, Drone Technology, Smart Cities & Application (ICDIDSA-23), organized by Sandip Institute of Technology and research center, Nashik, 29-30, November 2023
- 4) **“Enhancing the Skills of Visually Impaired Individuals by Generating Open-Source Engine using Machine Learning”** in the 7th International Conference on Innovative Computing and Communication (ICICC-2024), organized by Shaheed Sukhdev College of Business Studies, University of Delhi, New Delhi, India in association with the National Institute of Technology Patna, India and the University of Valladolid, Spain , 16 -17, February 2024.

**Best paper Award:**

**“Enhancing the Skills of Visually Impaired Individuals by Generating Open-Source Engine using Machine Learning”** in the 7 th International Conference on Innovative Computing and Communication (ICICC-2024), organized by Shaheed Sukhdev College of Business Studies, University of Delhi, New Delhi, India in association with the National Institute of Technology Patna, India and the University of Valladolid, Spain , 16 -17, February 2024.

# Trainings and workshops organized by the Computer Dept.





1. Department of computer engineering organized **Intel Unnati Certification** program for the faculties of Computer, IT and AIDS staff members. The workshop held from 21<sup>st</sup> to 25<sup>th</sup> February, 2024. It was based on the supervised learning, unsupervised learning, deep Learning, Intel@ DevCloud.
2. Department of computer engineering organized the guest lecture on Microprocessor 80386, for Second Year Computer Engg. students. The resource person was Dr. Pradip Paithane Sir, from AIDS department, VPKBIET, Baramati. Total 75 students were present.



# From Campus to Corporate 2023-24





Sr. No.	Name of the Students	Name of the Employer
1	ABHIJEET CHANDRAKANT PANDARKAR	Capgemini
2	ABHINAV GADHAVE	Flighcase IT Services
3	ADESH SADASHIV MORE	TCS
4	ADITI RADHKRISHNA BHALEKAR	Capgemini
5	ADITYA NANDKISHOR JADHAV	Capgemini
6	AKSHAYA GIRNIWALE	Persistent
7	AMAY VIJAY SURYAWANSHI	Capgemini
8	ANIKET VINAYAK ROHOKALE	Accenture LOI
9	APURVA VIKAS BOBADE	TCS
10	ATHARV CIJAYKUMAR KARNE	Capgemini
11	GAURISATISH MAID	Capgemini
12	HARSH VIJAY SHEREKAR	TCS
13	HARSHADA NITIN BANKAR	TCS
14	KAUSTUBH KAILAS GADE	Capgemini
15	MAITHILI SANTOSH JAGTAP	Capgemini
16	NISHANT GHANSHYAM KATHAVATE	Capgemini
17	POONAM DADASAHEB JADHAV	Cognizant
18	PRAJKTA GHANWAT	Persistent

19	NALE PRANJAL SHANKAR	Capgemini
20	PRATHMESH BABURAO DONI	Capgemini
21	RIDDHI BHAUSAHEB CHAVAN	IBM
22	RITESH PRADIP KHORE	RAJA SOFTWARE LABS
23	RUTUJA VIVEK KADAM	Capgemini
24	SAKSHI SAMPAT PAWAR	Capgemini
25	SAKSHI SANDIP GADHAVE	TCS
26	SANIKA SAHUJI	Persistent
27	SHIVPRASAD SACHINDEO BENDRE	Capgemini
28	SHRADDHA SUDIR MOKASHI	Cognizant
29	SHRUTI SANJAY GHADAGE	Capgemini
30	SHRUTI GANGADHAR SURPUR	Capgemini
31	SUJATA MAHADEV GAWALI	Accenture
32	KHATIK SWAPNIL ANKUSH	Capgemini
33	SWATISHELKE	Persistent
34	TEJAS DILIP PAGALE	Capgemini
35	UDAYSINGH PAWAR	Deloitte
36	VAISHANAVI ASHOK JAMBHALE	Capgemini
37	VAISHNAVI SHRISHAIL SAKHARE	Accenture LOI



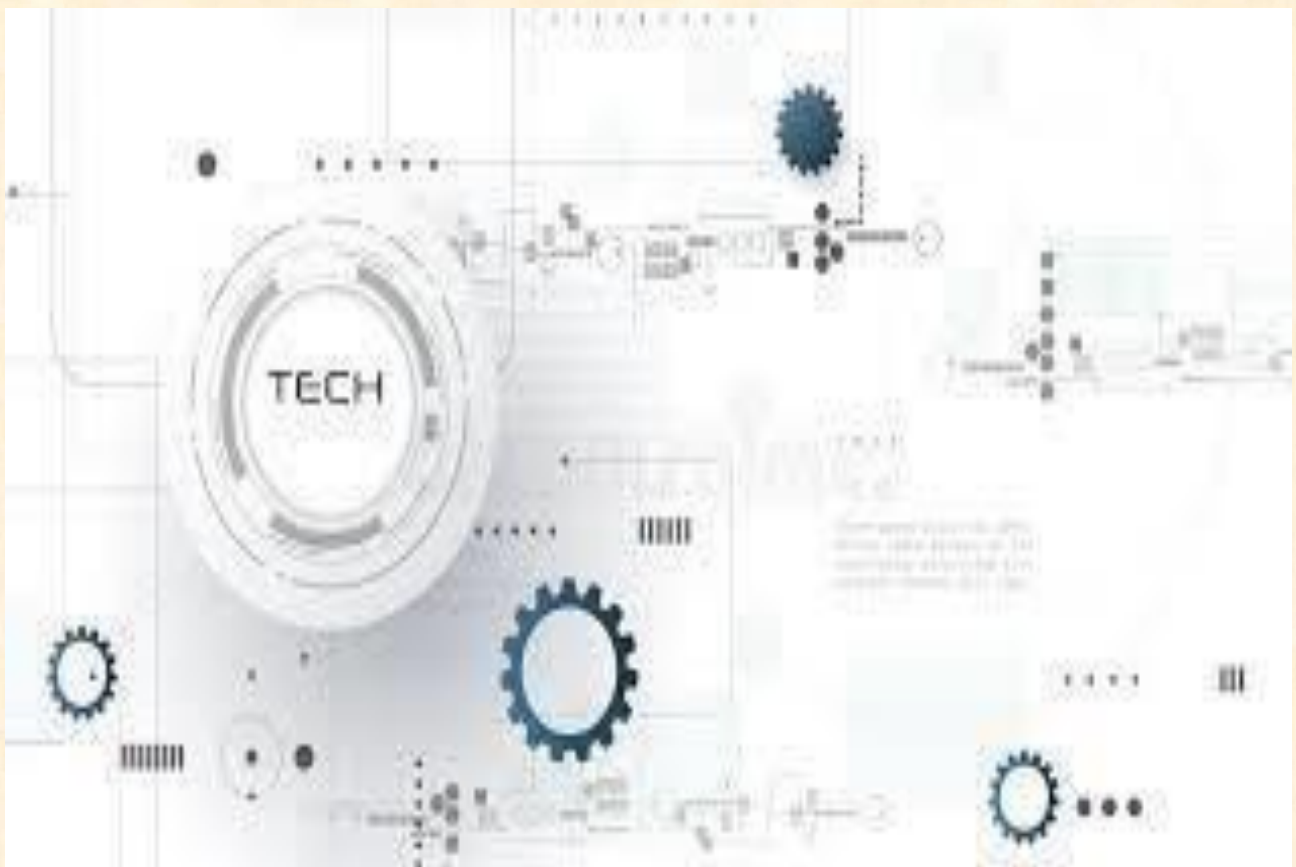
38	VARAD ABHAY MAHADIK	Capgemini
39	YOGANSH GOPALRAO WAGH	Capgemini
40	ABHIJEET GOKULDAS NERE	TCS
41	AISHWARYA RAVINDRA RAUT	TCS
42	AMOL KAILAS GAJRE	TCS
43	ATUJ DAGDOBA JEDGE	Guangdoing Longtian Smart Instrument Co.Ltd
44	NIKITA NITIN GADHAVE	Capgemini
45	POOJA ARUN MORE	TCS
46	RONIT SANDIP KHALATE	TCS
47	RUTUJA ANANDRAO SHINDE	TCS
48	SHRADDHA SUDIR MOKASHI	TCS
49	VISHWAJEET DNYANESHWAR DESHMUKH	TCS

2023-24 Higher Study		
1	GAURI KHARAT	MM COE KARVENAGAR PUNE
2	HARSHAL KALE	JSPM's Rajashri Shahu COE, Tathawade, Pune
3	SANIKA SAHUJI	Higher Study in Gremany
4	SHRUTI GANGADHAR SURPUR	Higher Study in Germany

FACULTY

Development program-FDP

2023-24





Sr. No	Name of Faculty	Name Of Activity	Durati on (In Days)	Organized By (Full Name of organizing Body)
1	Dr. C. S. Kulkarni	Data Science For Business	5	VIIT ,Pune
2	Dr. S. K. Shinde	Supervised Learning, Unsupervised Learning, Deep Learning, Intel® DevCloud	5	Intel Unnati Lab and VPKBIET, Baramati
		Data Science For Business	5	VIIT ,Pune
2	Dr. Mrs. G. J. Chhajer	Module Development Using Augmented And Virtual Reality	5	Vishwaskarma Institute of Information Technology, Pune in association with IEEE Computer society , Pune
		Recent Trends In Multidiciplinary Research(Season-3)	5	Vishwaskarma Institute of Information Technology, Pune in association with IEEE Computer society , Pune

		Module Development Using Augmented And Virtual Reality	5	VIIT, Pune in association with IEEE computer Society
		Recent Trends In Multideciplinary Research (Session-3)	5	VIIT, Pune in association with IEEE computer Society
3	Mrs. S. S. Nandgaonkar	Nep 2020 Orientation & Sensitization	12	Malviya Mission & SPPU Pune
		Nep 2020 Orientation & Sensitization	5	UGC - Malaviya Mission Teacher Training Centre (Formerly UGC- Human Resource Development Centre) Savitribai Phule Pune University, Pune - 411007



4	Mrs. Seema Chauhan	Security Aspects In Computer Science And Its Applications (Sacs-2023)	5	MNNIT Allahabad, Prayagraj, Uttar Pradesh
		Recent Trends In Computing 3.0	5	VIT Pune
		Ai/ML And Data Science For Industry 4.O (Intermediate Level )	5	NITTTR, Chandigarh
5	Mrs. S.A. Limkar	Artificial Intelligence And Machine Learning	5	SVPM Malegaon
		Industry 5.0 For Society	7	Vishwaskarma Institute of Information Technology, Kondhawa
		Recent Trends In Computing 3.0	5	VIT Pune
		Nptel - Python For Data Science	28	NPTEL IIT Madras
6	Ms. S.D.Pawar	Artificial Intelligence And Machine Learning	5	SVPM Malegaon
		Industry 5.0 For Society	7	VIT, PUNE

		Recent Trends In Computing 3.0	5	VIT Pune
		Nptel - Python For Data Science	28	NPTEL IIT Madras
7	Mrs. A. J. Sonawane	Supervised Learning, Unsupervised Learning, Deep Learning, Intel® DevCloud	5	Intel Unnati Lab and VPKBIET, Baramati



# Participation in inter-institute events by students

- Avishkar Zonal Level First Prize: Maithili Jagtap, Pranjal Nale, Shruti Ghadge, Sakshi Pawar.
- Avishkar Zonal Level Participation: Sapkal Kunal, Kotule Shivhari, Shinde Rutuja.
- Students participated in Hacx - St Francis College Mumbai: Maithili Jagtap, Pranjal Nale, Shruti Ghadge, Sakshi Pawar.
- Neha Chhaged received Grant Certificate for South African Patent number: 2023/09586 in 2023.
- Students Participated in Android Development workshop at Techfest IIT Bombay: Neha Chhaged, Aditya Suntanure, Vivek Vijapure, Gayatri Yadav
- Students participated in E-Commerce & Tech Quiz of Flipkart GRID6.0 organized by Flipkart: Veena Madhure, Neha Chhaged
- Shrushti Surpur, Amey Suryawanshi, Harsha Sherekar of BE Computer Engg. won the Best Paper Award for a paper entitled as “Enhancing the Skills of Visually Impaired Individuals by Generating Open- Source Engine using Machine Learning” in the 7<sup>th</sup> International Conference on Innovative Computing and Communication (ICICC- 2024), organized by Shaheed Sukhdev College of Business Studies, University of Delhi, New Delhi, India in association with the National Institute of Technology Patna, India and the University of Valladolid, Spain , 16 -17, February 2024.
- Neha Chhaged has been selected as Google Developer Groups On Campus Organizer which is a global community and 66 students successfully completed GenAI Study Jams Campaign and earned rewards.





# EDITORIAL

Dear Readers,

Warm greetings from the Computer Engineering team!

We hope this message finds you and your loved ones safe and well. Benjamin Franklin once said, "*Learning never exhausts the mind.*" – Leonardo da Vinci Inspired by this philosophy, the creative minds of the Computer Engineering Department at VPKBIET have come together to bring you this edition of *CompBits*.

We extend our heartfelt congratulations to every student and faculty member who contributed to this initiative. It fills us with pride to showcase the incredible imagination and innovation of our very own VPKBIET community—a testament to ideas that stretch far beyond horizons.

We would like to express our sincere gratitude to the Management and faculty members for their unwavering support and trust in the Editorial Board. Their belief in us, coupled with the freedom to curate and design this magazine, has been instrumental in making *CompBits* a reality.

We hope this magazine serves as a source of inspiration and motivation for every student, encouraging them to strive for excellence and carry forward the legacy of *CompBits*.

Happy reading!

Warm regards,

The Editorial Team

For any suggestions reach us at: [swapnali.limkar@vpkbiet.org](mailto:swapnali.limkar@vpkbiet.org)