



13th Issue of
NEWSLETTER

J a n u a r y - J u n e
2 0 2 6 E D I T I O N

**COMPUTER ENGINEERING
DEPARTMENT**



Presenting 13th issue of half yearly departmental **NEWSLETTER** that consists of events, achievements, moments and much more...

**Published by
Computer Engineering Department**

Government Engineering College, Gandhinagar, Sector - 28



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The Government Engineering College, Gandhinagar (GECG) was established in 2004 to give higher education in engineering and technology. The institute is recognized by the All-India Council of Technical Education (AICTE), New Delhi, and the Institute of Engineers (India). The college is administered by the Directorate of Technical Education, Gujarat State, Gandhinagar, and is affiliated with Gujarat Technological University (GTU).

All the courses of this college were taught according to the GTU (Gujarat Technological University) syllabus and exams.

In November 2007, the college moved to its new campus at Sec-28, near GEB, inaugurated by Smt. Aanandiben Patel, Minister for Higher and Technical Education. It is spread over 33 acres (130,000 m²) of land.

Principal's Message



Dr. Sweta Dave

Principal GECG

Dear faculty, staff & students,

*" To those who see with loving eyes, life is beautiful.
To those who speak with tender voices, life is peaceful. To those who help with gentle hands, life is full. And to those who care with compassionate hearts, life is good beyond all measure! "*

I Dr. Sweta P. Dave as the Principal of the prestigious educational organization, Government Engineering college of Gandhinagar, with a compassionate heart Invites you to have an Initial peak of our organization's vision & values. Government Engineering college Gandhinagar primarily stands to nurture the shelved potential hidden in the young talent. We intend to provide a platform to the students to let out their creativity and channelize their knowledge and young inspirational energy.

At GEC Gandhinagar, the joyful experience of academics and the energetic bursts of co-curricular activities Integrate to create an all-round experience for fellow students and attendees. Our highly qualified faculties and management makes sure our fellow students become capable to stand out of the competition in the outside world.

GEC Gandhinagar brings a holistic academic as well as a practical approach for the students to become compatible and knowledgeable to the market needs. And we believe In this statement a lot, our faculties are well qualified and trained to deliver the knowledge in a playful form and not letting students just to mug up.

At last, I want to convey that we focus on the overall development of our students. We also look after the staff members and the college resources to provide students with the highest quality of academics value. I will heartily invite you to join our prestigious organization and become part of our family.

H.O.D.'s Message



Dr. Dhaval Parikh

HOD, CE Department

Dear Faculty and students,

The Department of Computer Engineering, established in 2004, has recorded a consistent improvement in its academic, research, and placement performance till now. I am elated to tell you that the department stands on the strength of experienced and well-qualified faculty who are very dedicated to teaching and also involved in the up-gradation of knowledge. Their research experience will help to cultivate the future of our students.

The B.E. Computer engineering program includes computer operations on different languages, data generation, collection and utilization of information. The course imparts all the basics as well as the latest knowledge pertaining to the rapidly developing field of computers. The course is designed to keep students at pace with the practical field. The mission of the department is to produce and impart theory, principles, practice, and know-importance of computing in the information age. This is required for the critical analysis, design, evolution, and improvement of the computing system in the context of computers and industry services. To provide students with a strong foundation in the mathematical, scientific, and engineering fundamentals necessary to formulate, solve and analyze engineering problems and to prepare them for graduate studies.

About GEC, Gandhinagar



Established in 2004, Government Engineering College, Gandhinagar (GEC-Gn) takes pride in its highly motivated students. Our students are life-long assets that help this institute to continuously evolve and work towards its Vision. Our College is Approved by AICTE.

The College is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar. GECGN is affiliated to **Gujarat Technological University**.

About Computer Department



Department of Computer Engineering is well posed to cater the needs of the course. It is equipped with well-developed laboratories to satisfy the course curriculum of various subjects related especially to the Computer field. The main backbone of the course is educating knowledge of computer and its engineering . Almost all fields are computerized to have ease of handling the problems of designing, manufacturing, servicing, researching, marketing and accounting.

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The course imparts all the basics as well as latest knowledge pertaining to the rapidly developing field of computers. The course is designed to keep students in pace with the practical field.

The mission of the department is to produce and impart theory, principles, practice and know-importance of computing in the information age. This is required for the critical analysis, design, evolution and improvement of computing system in context of computers and industry services. It is our objective that students should be able to pursue advanced studies in computer engineering and information technology on a competitive universal basis. The college has well established computer labs which are facilitated with IBM, X series Xeon & dual processor Pentium servers, Compaq server and several hundred work stations connected in LAN & WAN.

Vision & Mission

Vision

- To achieve excellence for providing value based education in Computer Engineering through innovation, team work and ethical practices.

Mission

- To produce computer science and engineering graduates according to the needs of industry, government, society and scientific community.
- To develop partnership with industries, government agencies and R & D Organizations
- To motivate students/graduates to be entrepreneurs.
- To motivate students to participate in reputed conferences, workshops, symposiums, seminars and related technical activities.

PEOs & PSOs

Program Educational Outcomes (PEOs)

- To provide students with a strong foundation in the mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyze engineering problems and to prepare them for graduate studies, R&D, consultancy and higher learning.
- To develop an ability to analyze the requirements of the software, understand the technical specifications, design and provide novel engineering solutions and efficient product designs.
- To provide exposure to emerging cutting edge technologies, adequate training & opportunities to work as teams on multidisciplinary projects with effective communication skills and leadership qualities.
- To prepare the students for a successful career and work with values & social concern bridging the digital divide and meeting the requirements of Indian and multinational companies.
- To promote student awareness on the life-long learning and to introduce them to professional ethics and codes of professional practice

PEOs & PSOs

Program Specific Outcomes (PSOs)

- By the completion of Computer Engineering program the student will have following Program specific outcomes.
- Design ,develop, test and evaluate computer based systems by applying standard software engineering practices and strategies in the area of algorithms, web design, data structure, and computer network
- Apply knowledge of ethical principles required to work in a team as well as to lead a team

Faculty, CE Department

Dr. Dhaval Parikh
HOD, CE Department



Dr. Harikrushna B Jethva
Associate Professor



Dr. Sanjaykumar Patel
Associate Professor



Dr. Vimal B Vaghela
Associate Professor



Faculty, CE Department

Prof. N.K.Prajapati
Assistant Professor



Dr. D.P.Khem
Assistant Professor



Dr. B.U.Gadhia
Assistant Professor



Faculty, CE Department



Prof. N.D. Shah

Assistant Professor



Prof. Nitin Raval

Assistant Professor



Dr. Hemani Shah

Assistant Professor



Dr. Nikhil Singh

Assistant Professor

Faculty, CE Department



Prof. Ashwin Prajapati

Assistant professor



Prof. Viral R. Patel

Assistant Professor



Dr. Mihir Mehta

Assistant Professor



Dr. Manisha Valera

Assistant Professor



Prof. Hetal K Mavani

Assistant Professor

Infrastructure Details

The building no. 5 is allocated to CE-IT department. It is a three storey building with around 25 rooms for lectures, different Labs particularly for hands-on practice on machines and cabin for the respected faculties and HOD sir. The entire building is under the surveillance of CCTV camera to maintain the safety and integrity of the Department.



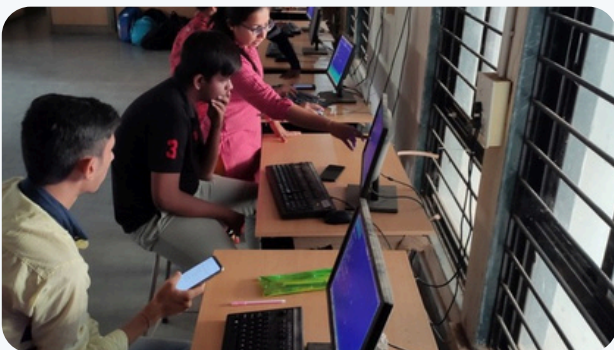
Entire building is facilitated with high-speed Wi-Fi network for easy networking. The labs are provided with well-maintained WLAN network.

Programming Lab

The laboratories are equipped with a number of desktop computers. The current software resources include open-source programming SDKs. The lab is used for the course subjects like C, C++ programming etc.



Database Lab



A database management system is computer software that provides a way to manage data. DBMS lab aims at practicing and achieving this aim by using various software's such as SQL, ORACLE, and MS – Access etc.

Application Development Lab

Website Development includes both front end and back end including database management and dynamic functionality of website as per the user actions. Although we work with various tools/languages to achieve this functionality such as - ASP.NET, PHP, JSP but we primarily focus on .NET



Network Lab

Networking is a key area in the field of computers that deals with the physical connectivity of computers which is monitored by a combination of special hardware and software. The course curriculum provides from the coverage of basics to advanced applications and services, while providing a platform for hands-on practical experience and soft-skills enhancement.



PG Research Lab



The ability of a computer or other machine to perform those activities that are normally thought to require intelligence. The branch of computer science concerned with the development of machines having this ability. Early AI projects, such as playing chess and solving mathematical problems, are now seen as trivial compared to visual pattern recognition, complex decision making, and the use of natural language



OOP Lab



The laboratory is equipped with a number of desktop computers. The current software resources include a number of Object Oriented Programming SDKs, Integrated Development Environment like Eclipse, EditPlus etc. and Object Oriented Software Engineering tools.



Clubs at GECG

Club IDE

A Community, By the Students, For the Students

It is an initiative by CE/IT Dept of GEC-Gn. This is community for the student and by the student. Here the students grow their knowledge in a peer-to-peer learning environment and bulid solutions for local businesses and their community.



<https://clubs.gecg28.ac.in/>



<https://instagram.com/theideclub?igshid=1x6stwsrt04q>



<https://www.linkedin.com/company/the-ide-club>



<https://discord.gg/vXNCpKXzET>



https://twitter.com/club_ide

GDSC GEC - Gandhinagar

Google Developers Student Club

Google Developer Student Clubs (GDSC) are community groups for college and university students interested in Google developer technologies. Students from all undergraduate or graduate programs with an interest in growing as a developer are welcome. By joining a GDSC, students grow their knowledge in a peer-to-peer learning environment and build solutions for local businesses and their communities.



<https://gdsc.community.dev/government-engineering-college-gandhinagar/>



https://instagram.com/gdsc_gecg



<https://www.linkedin.com/company/gdsc-gec-gandhinagar>



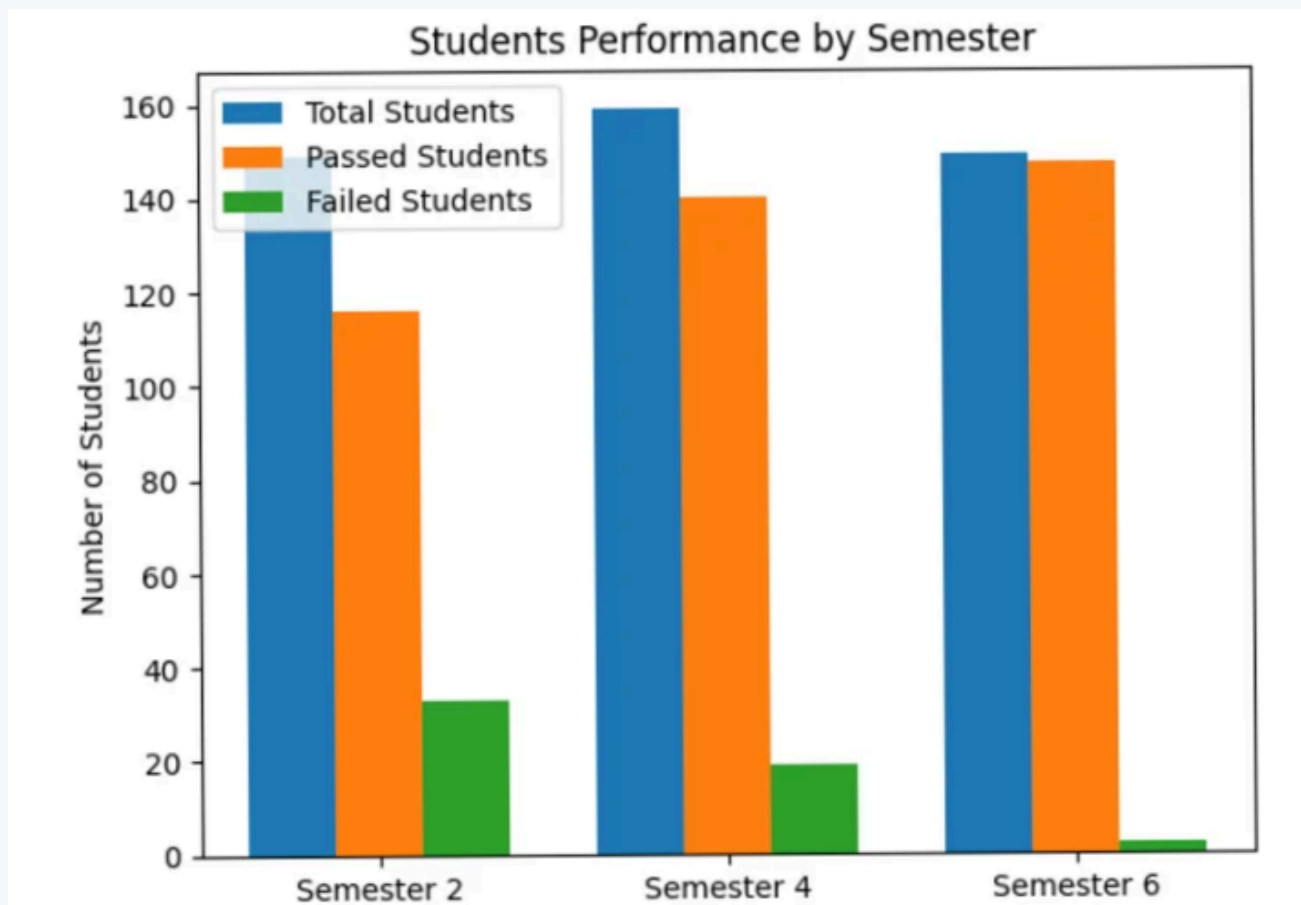
<https://youtu.be/snyOV3lqiM8>



https://twitter.com/gdsc_gecg

Result Analysis

✓ B.E. Result for Winter - 2025



Placement

✓ In 2026, Students from CE Department are placed in various MNCs likewise E infochips, odoo, Meditab, Silver touch technologies, Tatvasoft etc.

Highest Package 6 LPA

Average Package 3.5 LPA

Companies visited campus this year...



Placement

We are proud to congratulate our students on their remarkable placement achievements, reflecting their hard work, dedication, and technical excellence.

- **Padmani Miral** secured an on-campus placement at Sigma Infosolutions Ltd. as an Associate Software Engineer in Ahmedabad with a package of ₹6.00 LPA.
- **Uneval Lalit** secured an on-campus placement at Webs Optimization Software Solutions as a Java Developer in Ahmedabad with a package of ₹4.50 LPA.
- **Het A. Shukla** secured an on-campus placement at Zignuts Technolab as a Software Development Engineer in Gandhinagar with a package of ₹5.00 LPA.
- **Dhruvi Ranjitsinh Raj** secured an off-campus placement at Odoo as a Software Developer in Gandhinagar with a package of ₹5.00 LPA.
- **Malaviya Om Hareshkumar** secured an on-campus placement at Tatvasoft as a Software Developer in Ahmedabad with a package of ₹5.00 LPA.
- **Siddharth Shaileshkumar Parmar** secured an on-campus placement at eSparkBiz Technologies Pvt. Ltd. as a Software Developer in Ahmedabad with a package of ₹4.50 LPA.

These accomplishments highlight the students' perseverance and the continuous efforts of the Training and Placement Cell in fostering industry readiness. We extend our heartfelt congratulations to all the students and wish them continued success in their professional journeys.

Placement

GEC Gandhinagar Final year Student Secures Software Engineer Position at Amazon



- Government Engineering College, Gandhinagar proudly congratulates its final year Student **Bhargavi Machhi** on securing a prestigious position as a **Software Development Engineer (SDE)** at **Amazon**.
- During excelling in her Computer Science degree at GEC Gandhinagar, Bhargavi successfully converted her internship at **Amazon** into a full-time role. Her remarkable journey from a humble background to one of the world's leading technology companies stands as a testament to perseverance, dedication, and academic excellence.

Faculty's Achievements



- **Dr. Bijal U. Gadhia**

Dr. Bijal U. Gadhia has successfully completed her Ph.D. from Gujarat Technological University (GTU) in January 2026. Her research work focused on “An Adaptive Framework for Soccer Video Skimming using Deep Learning” under the guidance of Dr. Shahidmohammed S. Modasiya.



- **Dr. Manisha Valera**

Dr. Manisha H. Valera has successfully completed her Ph.D. from Gujarat Technological University (GTU) in June 2026. Her research work focused on “A Hybrid Deep Learning Approach for Sentiment-Aware and Feature-Based Movie Recommendation and Rating Prediction” under the guidance of Dr. Rahul Dhirendrabhai Mehta.

Faculty's Achievements



- **Prof. V. R. Patel**

Prof. V. R. Patel participated in the NPTEL Online Course 'Cyber Security and Privacy' (12-Week Online Course, July–October 2025) and earned the course completion certificate.

Prof. V. R. Patel participated in the NPTEL Online Course 'Privacy and Security in Online Social Media' (12-Week Online Course, July–October 2025) and earned the course completion certificate.



- **Dr. D. P. Khem**

Dr. D. P. Khem successfully completed a MOOC on the NPTEL Platform (National Programme on Technology Enhanced Learning) and received the course completion certificate on 19th January 2026.

Faculty's Research & Publication



- **Dr. D. A. Parikh (HOD, CE)**

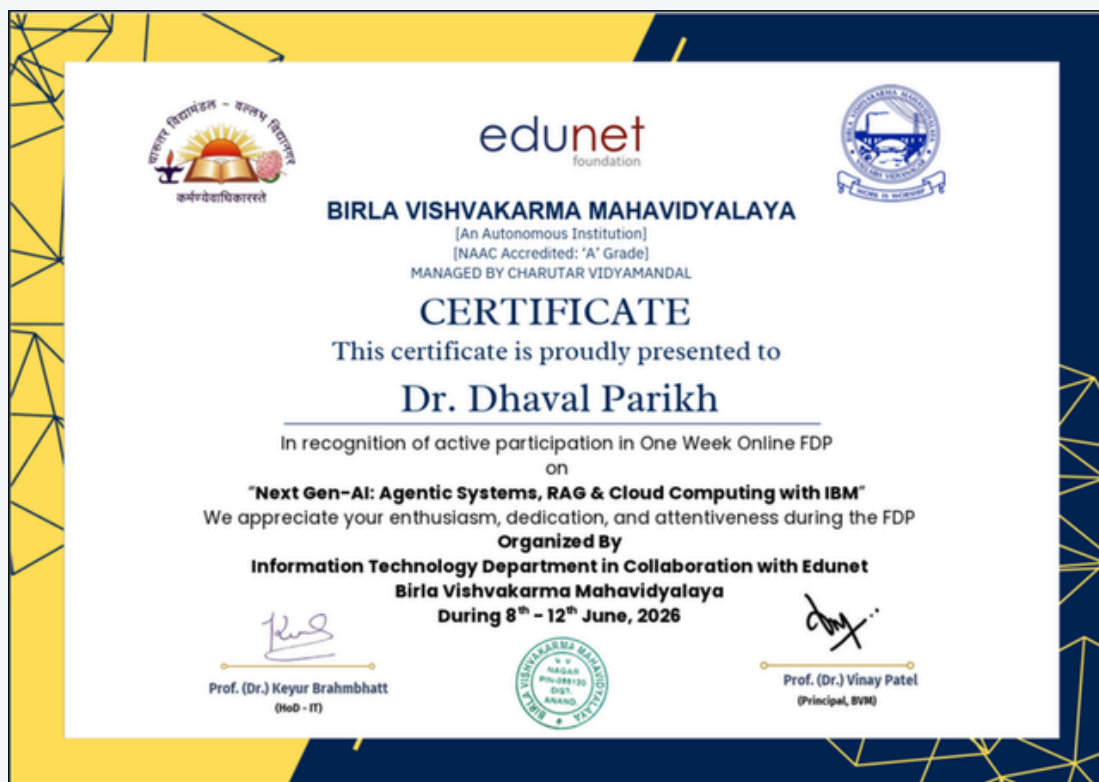
Dr. D. A. Parikh's paper titled 'Feasibility and Viability of Adaptive Recommender Systems: Bridging Traditional and Intelligent Approaches' has been published in Reliability: Theory & Applications, Vol. 20, Issue 4(89), pp. 694–702, 2025. The journal is an internationally recognized publication covering reliability engineering and related intelligent systems research.

Faculty's Participation



- **Dr. D. A. Parikh (HOD, CE)**

Dr. Dhaval Parikh attended a One Week Online Faculty Development Programme (FDP) on "Next Gen-AI: Agentic Systems, RAG & Cloud Computing with IBM", organized by the Department of Information Technology, Birla Vishvakarma Mahavidyalaya (BVM) in collaboration with the Edunet Foundation. Held from 8th to 12th June 2026, the programme provided insights into Agentic AI, Retrieval-Augmented Generation (RAG), and IBM Cloud Computing technologies.



Faculty's Participation



- **Dr. Manisha Valera**

Dr. Manisha Valera attended the Ahmedabad Design Week 7.0 – AI in Creative Spaces, a 3-day event held from 30th January 2026 to 1st February 2026 at Karnavati University, Gandhinagar. The programme explored the intersection of artificial intelligence and creative design disciplines.

Dr. Manisha Valera has successfully completed the Industrial training on Software Product Development, Testing, and Cyber Security Practices conducted at Radix Software Services Pvt. Ltd., Ahmedabad from 15 June 2026 to 26 June 2026.

Student's Achievement



M.E. (Computer Engineering) – Semester 4 Dissertation Details (2025-26):

Sr. No.	Enrollment No.	Name of Student	Guide	Co-Guide	Dissertation Title
1	240130773001	AAYUSHI PATEL	Prof. S P Patel	Prof. N D Shah	Object Level Sketch to Image Translation Using Generative Models
2	240130773002	BHAVSAR HIRAL DIPAKKUMAR	Prof. D A Parikh	Prof. N M Raval	Towards Reliable Customer Satisfaction Prediction: An AI/ML-Driven Multimodal Approach for E-Commerce Platforms
3	240130773004	DODIYA JANKEEBEN KAMLESHBHAI	Prof. V B Vaghela	Prof. M H Valera	Deep Learning-Based Social Media Analysis for Disaster Response
4	240130773006	JOSHI ANKITKUMAR MAHENDRABHAI	Prof. N K Prajapati	Prof. M D Mehta	Smart OCR System for Degraded Document Recognition Using Deep Learning
5	240130773010	PATEL MANANKUMAR SNEHALKUMAR	Prof. D P Khem	Prof. H Y Shah	A Hybrid Rule-Based and Machine Learning Approach for Gujarati Grammar Error Correction
6	240130773011	PATEL YASHVI KAUSHIKKUMAR	Prof. H B Jethva	Prof. N K Singh	Word-Level Sign Language Recognition Using Vision-Based Deep Learning
7	240130773012	PRANJAL PATEL	Prof. B U Gadhia	Prof. H Y Shah	Facial Emotion-Based Music Recommendation Using Deep Learning
8	240130773016	SUTHAR KASHYAPKUMAR NAYANKUMAR	Prof. D A Parikh	Prof. A R Prajapati	AI-Powered B2B Product Recommendation Engine
9	240130773020	VIPUL VAROTARIYA	Prof. S P Patel	Prof. V R Patel	Enhancing Website Security Using AWS Cloud

Student's Achievement



Congratulations FOR CLEARING **GATE 2026**

GOVERNMENT ENGINEERING COLLEGE, GANDHINAGAR



CE DEPARTMENT



We wish all our students continued
success in their future endeavors.

Student's Achievement



GATE 2026 Results – The following students of the Computer Engineering Department appeared in GATE 2026 and achieved commendable scores, demonstrating academic excellence and strong technical proficiency

Rank	Enrollment Number	Full Name	Sem	Branch	GATE Marks	All India Rank
1	230130107119	Arth Vimalbhai Rajkotiya	6	CE	65.21	560
2	230130107149	Ridham J Vasoya	6	CE	53.16	2,630
3	230130107089	Krina Vasantbhai Patel	6	CE	42.13	8,074
4	22130107136	Kavya Soneji	8	CE	41.44	8,659
5	220130107084	Patel Harsh Maheshbhai	8	CE	25.33	10,944
6	220130107048	Maheshwari Raj GirishKumar	8	CE	39.15	11,141
7	230130107055	Shrey Ladani	6	CE	36.61	14,386
8	230130107128	Saparia Rutvi Ajaybhai	6	CE	34.26	18,337
9	230130107028	Dhudasiya Ruchikkumar Vipulkumar	6	CE	33.61	19,602
10	230130107026	Kaushal Kishor Dharmik	6	CE	32.31	22,588
11	220130107055	Mansuri Hasnain Mohammad Firoz	8	CE	31.08	25,584
12	230130107136	Sohagiya Khushi	6	CE	31.08	25,584
13	220130107126	SHAIKH OMAR IMRANAHMED	8	CE	30.35	28,114
14	220130107133	Jaimin Deepsinh Solanki	8	CE	21.88	67,463

Student's Achievement



GTU Odd Term 2025-26 Toppers – The following students of the Computer Engineering Department Topped in GTU Odd Term 2025-26 Examination and achieved commendable scores, demonstrating academic excellence and strong technical proficiency

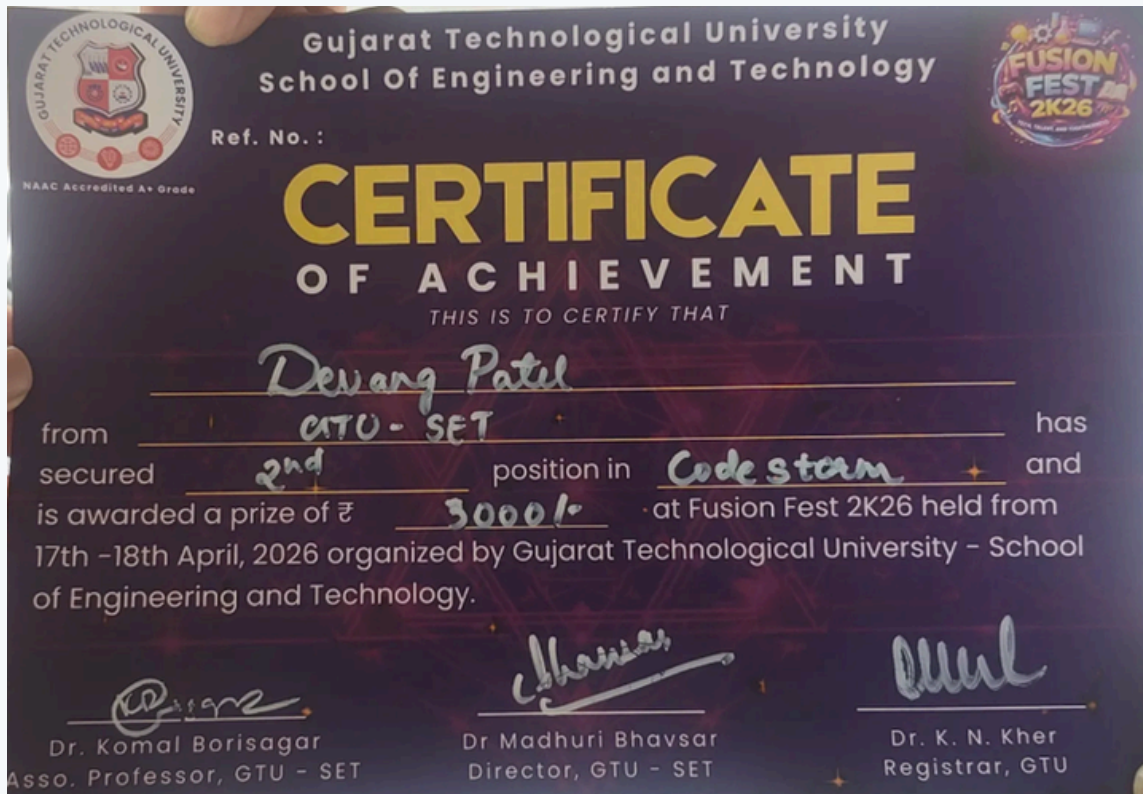
Sr. No.	Enrollment number	Name	CPI	SPI	SEM
1	250130107055	HET UPADHYAY	9.44	9.44	1
2	250130117016	GAJJAR KAVYA	9.05	9.05	1
3	240130107001	Abhigyan Gautam	8.62	9.8	3
4	240130107147	VAIBHAV ASHOKBHAI RAMANI	9.13	9.5	3
5	230130107077	PARMAR PRINCE NAROTTAMBHAI	8.37	9.3	5
6	230130107149	VASOYA RIDHAM JITENDRAKUMAR	8.74	9.13	5
7	220130107126	SHAIKH OMAR IMRANAHMED	8.95	9.21	7
8	220130107076	PATEL AASTHA RAKESHBHAI	9.07	9.13	7

Student's Achievement



- **Devang Patel**

(Enrollment No.: 230130107081, Sem 6, Computer Engineering)



- **Solanki Rajvi Amrishbhai**

(Enrollment No.: 240130107135, Sem 4, Computer Engineering)

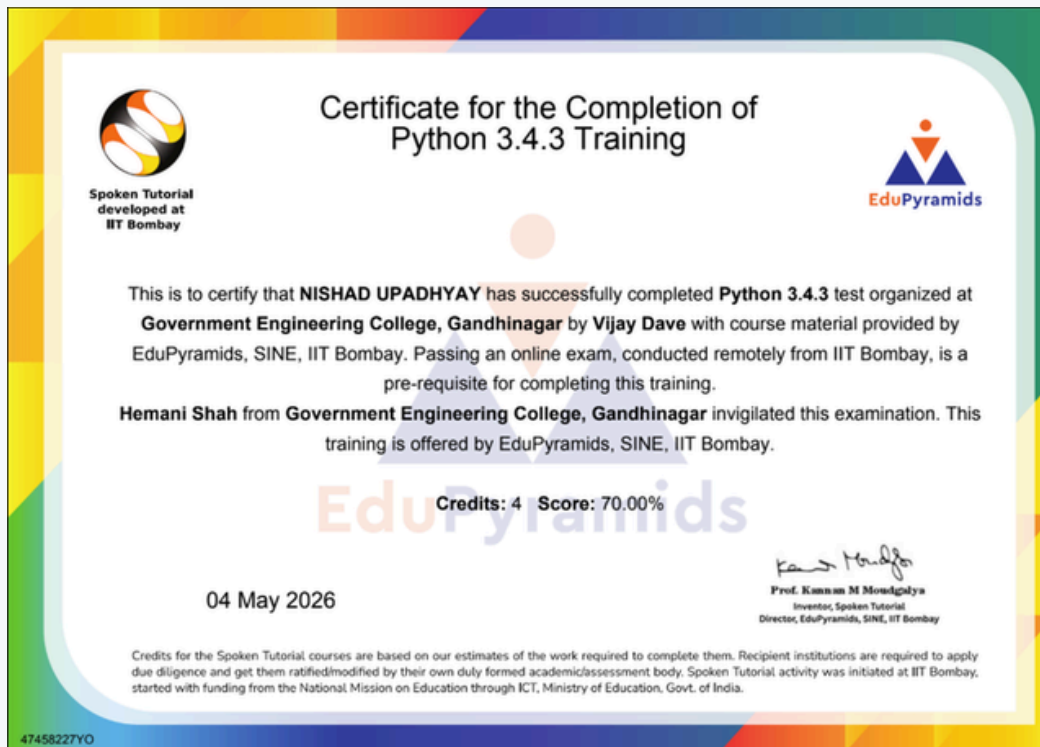


Student's Achievement



- **Upadhyay Nishad Hiteshkumar**

(Enrollment No.: 240130107146, Sem 4, Computer Engineering)



- **Sanghadia Preksha Himanshubhai**

(Enrollment No.: 240130107123, Sem 4, Computer Engineering)



Student's Achievement



- **Patel Nisha Dahyabhai**

(Enrollment No.: 240130107102, Sem 4, Computer Engineering)



Departmental Activities

Reunion, Reminiscence & Renewal – Alumni Meet 2026

The Alumni Meet 2026 was successfully organized on 4th April 2026 at GEC Gandhinagar, with enthusiastic participation of nearly 500 attendees including alumni, current students, faculty members, and staff from the CE, EC, IT, IC, MET, and BM branches. The event fostered a lively atmosphere of nostalgia and connection as former students reunited with their classmates and mentors, revisited cherished memories, and interacted with present students through engaging sessions. The meet effectively strengthened the relationship between the institute and its alumni network, reaffirming a collective commitment towards progress, cooperation, and excellence. | Organized by: GECGn Alumni Association



Departmental Activities

Reunion, Reminiscence & Renewal – Alumni Meet 2026



સરકારી ઇજનેરી કોલેજમાં પૂર્વ વિદ્યાર્થી સંમેલન



સેક્ટર-૨૮ સ્થિત સરકારી ઇજનેરી કોલેજ ગાંધીનગર ખાતે અલગ અલગ વિભાગમાં ભૂતપૂર્વ વિદ્યાર્થી સંમેલનનું આયોજન કરવામાં આવ્યું હતું. જે અંતર્ગત દરેક વિભાગના ભૂતપૂર્વ વિદ્યાર્થીઓ દ્વારા હાલ અભ્યાસ કરતા વિદ્યાર્થીઓને માર્ગદર્શન આપવામાં આવ્યું હતું. જેનો વિદ્યાર્થીઓ અને કોલેજના અધિકારી/કર્મચારી વર્ગ સાથે અંદાજિત ૫૦૦ કરતા પણ વધુ લોકોએ લાભ લીધો હતો. સંસ્થાના આચાર્ય ડૉ. એસ. પી. દવે તથા દરેક વિભાગના વડાઓ સહિતના સ્ટાફે ભૂતપૂર્વ વિદ્યાર્થીઓને અભિનંદન આપ્યા હતા.

Departmental Activities

Witnessing a Milestone in India's Biosecurity Infrastructure



Departmental Visit to Gujarat's First BSL-4 Facility Bhoomi Pujan

- The Computer Department of GEC Gandhinagar proudly attended the historic Bhoomi Pujan of Gujarat's first BSL-4 Facility, graced by Hon'ble Union Home Minister Shri Amit Shah.
- Our students and faculty explored the critical role of advanced computing, data systems, and bioinformatics in driving the future of national biosecurity

Student's Creativity

“Steps to Success”

With books in hand and dreams so wide,
A student walks with hope as guide.
Through sleepless nights and lessons tough,
They rise above when times are rough.

Each page they turn, each test they face,
Builds strength, builds courage, builds their pace.
Mistakes may come, but still they try,
With fearless heart, they aim so high.

From small beginnings, goals take flight,
With steady work and burning light.
Success is not a single day,
It's every step along the way.

So stand up proud of what you've done,
Each challenge faced, each battle won.
For every effort, big or small,
Is proof you've given it your all.

- Khodada Nikul Gulabbhai | Enrollment No.: 250130107069 | CE Sem 2 | Poetry



- Rutvi | Enrollment No.: 250130107045 | CE Sem 2 | Painting

Student's Creativity

Title: From Logic to Motion: Navigating the Challenges of an Arduino-Powered Autonomous Vehicle

The Project Genesis

In the fast-evolving landscape of robotics, understanding the fundamentals of autonomous navigation is essential for any aspiring Computer Engineer. Our team dedicated the first half of 2026 to the design and development of an **Arduino-based Line Tracing Car**. Our objective was to create a robot that could analyze its environment in real-time and make split-second navigational decisions without human interference.

The Architecture: Hardware meets Software

At the heart of our vehicle sits the **Arduino Uno**, acting as the "brain" of the operation. We paired this with an array of infrared (IR) sensors and an **L298N** motor driver.

The technical challenge was twofold:

- **Hardware Synergy:** We had to ensure the chassis was balanced and the IR sensors were positioned at the exact height (approx. 5-10mm) to distinguish between the absorption of black tape and the reflection of the white

floor.

- **The Code Logic:** This was the most intensive phase. Writing the script in the **Arduino IDE**, we implemented a series of conditional statements and loops. We had to program the Arduino to constantly "poll" the sensors and translate those digital signals into specific motor voltages.

The Engineering Struggle: Calibrating the "Brain"

The project was a true test of our debugging skills. During our initial runs in the **Digital Fabrication Workshop**, the car suffered from "oscillatory behavior"—it would zig-zag violently across the line. We realized our code was too binary. To fix this, we spent several sessions refining our **PWM (Pulse Width Modulation)** values. By adjusting the speed of the motors relative to the sensor input, we were able to transition from jerky movements to a smooth, fluid "trace." We also had to account for "edge cases," such as what the car should do if it lost the line entirely or encountered a sharp 90-degree turn. This required us to think like programmers—anticipating every possible error before it happened.

The Final Achievement

By the time of completion in late April, our car was

capable of navigating a complex track with 100% autonomy. For our team, the greatest reward wasn't just seeing the wheels turn; it was the moment our code successfully managed a high-speed turn without losing track of the path.

Reflections on the Semester

Building this tracing car has been a defining part of our first-year experience at GEC Gandhinagar. It taught us that **Computer Engineering** isn't just about sitting behind a screen; it's about making code physical. We learned the importance of circuit troubleshooting, the nuances of real-time embedded logic, and the value of persistence in the face of hardware failure.

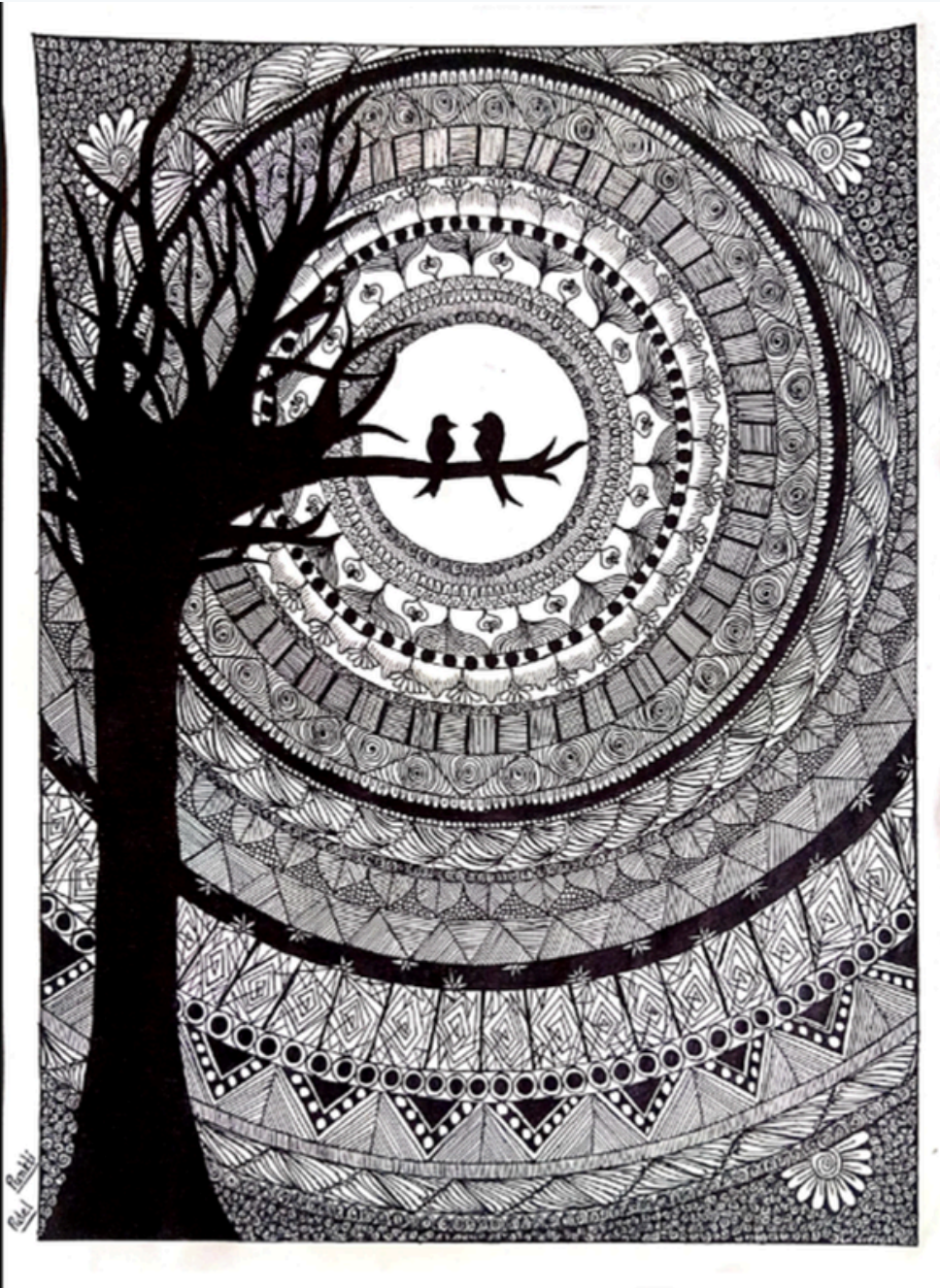
We are now looking forward to our next challenge: perhaps integrating an **ESP32** for IoT capabilities or adding ultrasonic sensors for obstacle avoidance!

Technical Summary for the Newsletter Editor:

- **Controller:** Arduino Uno (ATmega328P)
- **Sensing:** Dual/Triple IR Sensor Array
- **Actuators:** DC Gear Motors with L298N Driver
- **Key Achievement:** Successful implementation of real-time sensor-to-motor feedback loops.

- Isha Dhansukhbhai Patel | Enrollment No.: 250130107098 | CE Sem 2 | Story

Student's Creativity



- Patel Panktikumari Bharatbhai | Enrollment No.: 250130107108 | CE Sem 2 | Painting

Tech Updates

1. Samsung and Micron broke through the "memory wall" by commercializing HBM4 architectures, delivering data transfer speeds up to 11.7 Gbps to permanently eliminate processing bottlenecks in high-density AI data centers.

- Link: [TradingKey: Samsung HBM4 Market Analysis](#) / [Analytics India Magazine: Micron Silicon Engineering](#)

2. OpenAI and Broadcom challenged traditional GPU dominance by custom-designing "Jalapeño," an application-specific integrated circuit (ASIC) built on TSMC's 3nm process that promises to slash large language model inference costs by up to 50%.

- Link: [ANI News: OpenAI & Broadcom Roll Out Jalapeño AI Chip](#) / [AlphaMatch: OpenAI's Jalapeño Chip Deep Dive](#)

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Tech Updates

3. NVIDIA compressed an entire room-sized supercomputer into a single liquid-cooled rack with its "Vera Rubin" architecture, utilizing unified FP64 Vera CPUs and Rubin GPUs to scale up to 7 exaflops of agentic AI processing power.

- Link: [NVIDIA Newsroom: Vera Rubin Supercomputing Architecture](#)

4. AMD unveiled its "Helios" yotta-scale blueprint to target NVIDIA's enterprise data center crown, pairing next-generation 2nm Instinct MI455X accelerators with 256-core EPYC CPUs to unleash 3 exaflops of compute per rack.

- [Link: AMD Innovation: CES Architecture Blueprint / TechPowerUp: AMD Instinct MI400 Roadmap](#)

5. A massive macro-architectural shift triggered the "Inference Flip," forcing chip engineers to pivot away from model training hardware as live AI deployment and token serving officially grew to consume two-thirds of global data center budgets.

- [Link:https://www.spheron.network/blog/openai-jalapeno-chip-gpu-cloud-inference-2026/](https://www.spheron.network/blog/openai-jalapeno-chip-gpu-cloud-inference-2026/)

Tech Updates

6. Data centers began replacing traditional copper cables with Silicon Photonics and co-packaged optics, using microscopic onboard lasers to eliminate physical heat boundaries and signal degradation at high bandwidths.

- Link: <https://medium.com/%40shivashanker7337/major-tech-breakthroughs-of-july-2025-ai-gets-smarter-but-also-more-complex-5968c89a8886c9>

7. Semiconductor giants closed the recursive engineering loop by deploying multimodal LLMs to design chips, successfully automating complex hardware validation pipelines and cutting overall circuit debugging windows by up to 80%.

- Link: <https://www.infineon.com/about/press>

8. The maturation of specialized edge silicon like NVIDIA's Jetson Thor catalyzed a "Physical AI" revolution, providing localized FP4 precision compute that allows humanoid robotics to interpret environments completely offline.

- Link: <https://developer.nvidia.com/embedded/jetson-modules>

Tech Updates

9. Google demonstrated absolute cloud infrastructure independence by scaling its custom Trillium TPU fabric, seamlessly interconnecting over 9,000 matrix processing chips into a single cluster yielding 42.5 ExaFLOPS of machine learning power.

- Link: <https://cloud.google.com/blog/>

10. The geopolitical map of hardware manufacturing aggressively decentralized as India emerged as a packaging hub, with major multi-national firms rolling out active production lines in the region under the India Semicon Mission.

- Link: [Ministry of Electronics & IT India: Semiconductor Mission Milestones / Economic Times: India's OSAT Facilities Enter Commercial Production](#)

Events

HackTheSpring '26

- **Date:** 20 - 21st February 2026
- **Venue:** Government Engineering College, Gandhinagar (Sector-28)



- Government Engineering College, Gandhinagar's 2-day tech fest, HackTheSpring '26, concluded with remarkable success. Our "Guardians of Innovation" showcased exceptional creativity through innovative software solutions in Hack.X, physical prototypes in Build.X, and strategic ideas in Think.X. Thank you to everyone who joined this incredible journey and helped solve for X!

Events

Placement Orientation Program

- **Date:** 01 June 2027
- **Venue:** Government Engineering College, Gandhinagar (Sector-28)
- **Organized By:** Placement Cell, GEC Gandhinagar
- **Resource Person:** Prof. Nrupesh Shah



- **Objective of the Program:** The objective of the orientation program was to familiarize students with the placement process, encourage early preparation, and provide practical guidance on securing employment opportunities through campus placements.

Head of the Department



Dr. Dhaval Parikh
Head of C.E. Department

Newsletter Coordinator

Dr. Manisha Valera
Assistant Professor, Computer Engineering



Newsletter Editors



Upadhyay Nishad H.

CE Semester 05

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NEWSLETTER

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*Thank
You*