



# DIGITAL OUTLET

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CCET ACM STUDENT CHAPTER  
CCET, DEGREE WING,  
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# TABLE OF CONTENTS

Cover Page	1
Index	2
Mentors	3
Team	4 - 5
Vision/Mission	6
Events	7-11
Articles	12-17
Credits	18
Last Page	19

# A NOTE FROM OUR MENTORS



Our mission at CCET is not only to produce engineering graduates but to produce engineering minds.

Dr. Manpreet Singh  
Principal CCET (Degree Wing)



ACM CCET provides student a great opportunity to learn scientific and practical approach of computer science.

Dr. Sunil K. Singh  
Professor and HOD, CSE | Faculty Mentor



Every person should be provided with an opportunity to learn and explore the field of computer science.

Dr. Sudhakar Kumar  
Assistant Professor, CSE | Faculty Sponsor



CCET ACM Student chapter is a group of people with similar interests and goals in computer science. Together, this platform focuses on the growth and development at not only personal but professional level also as it has a unique learning environment.

Sahil Garg  
UG Scholar, 5th Semester, CSE | Chairperson, CASC



ACM-W Student Chapter of CCET aims to promote women in technology. As a member of this community, you will have the opportunity to collaborate with others who share similar interests and explore different areas of computing in order to advance in them.

Ayushi  
UG Scholar, 5th Semester, CSE | Chairperson, CASC-W



Research and  
Development



Student Speaker  
Program



Competitive  
Coding



Designing &  
Digital Art



Internship and  
Career  
Opportunity

## ABOUT ACM

ACM boosts up the potential and talent, supporting the overall development needs of the students to facilitate a structured path from education to employment. Our Chapter CASC focuses on all the aspects of growth and development towards computer technologies and various different fields. Overall, we at CCET ACM Student Chapter, through collaboration and engagement in a plethora of technical activities and projects, envision building a community of like-minded people who love to code, share their views, technical experiences, and have fun.

We have been trying to encourage more women to join the computing field, so we started an ACM-W Chapter to increase the morale of women. CASC launched an app which aimed at maintaining decorum of reading among CS members and sharing their ideas.





Research and  
Development



Student Speaker  
Program



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Coding



Designing &  
Digital Art



Internship and  
Career  
Opportunity

## ABOUT ACM-W

The CCET ACM-W was founded in October 2021 with an aim to empower women in the field of computing and increase the global visibility of women in the field of research as well as development. We provide a platform for like-minded people so that they can grow together and contribute to the community in a way that shapes a better world. Our chapter was founded to encourage students, especially women, to work in the field of computing. The chapter's main goal is to create even opportunities and a positive environment for students, where they can work to develop themselves professionally. We at the ACM Student chapter aim to build a globally visible platform where like-minded people can collaborate and develop in their field of interest.

# VISION

Chandigarh College of Engineering and Technology aims to be a center of excellence for imparting technical education and serving the society with self-motivated and highly competent technocrats.

# MISSION

1. To provide high quality and value based technical education.
2. To establish a center of excellence in emerging and cutting edge technologies by encouraging research and consultancy in collaboration with industry and organizations of repute.
3. To foster a transformative learning environment for technocrats focused on inter-disciplinary knowledge; problem-solving; leadership, communication, and interpersonal skills.
4. To imbibe spirit of entrepreneurship and innovation for development of enterprising leaders for contributing to Nation progress and Humanity.



# DEPARTMENT-VISION AND MISSION

## VISION

To produce self-motivated and globally competent technocrats equipped with computing, innovation, and human values for ever changing world and shape them towards serving the society.

## MISSION

- M1. To make the department a smart centre for learning, innovation and research, creativity, and entrepreneurship for the stakeholders (students/scholars, faculty, and staff).
- M2. To inculcate a strong background in mathematical, theoretical, analytical, and practical knowledge in computer science and engineering.
- M3. To promote interaction with institutions, industries and research organizations to enable them to develop as technocrats, entrepreneurs, and business leaders of the future.
- M4. To provide a friendly environment while developing interpersonal skills to bring out technocrat's inherent talents for their all-round growth

# BYTEBRAWL

12th November, 2024

## Event Details

On November 12, 2024, ByteBrawl, an online coding competition, brought together coding enthusiasts for an intense 2-hour challenge. Participants tackled 3–5 algorithmic problems of varying difficulty levels—Easy, Medium, and Hard—using programming languages such as C++, Java, Python, and more. The competition emphasized problem-solving, programming efficiency, and accuracy under a strict time limit. ByteBrawl successfully tested participants' logical thinking and coding skills while fostering a spirit of competition. The live leaderboard added an engaging and dynamic element, keeping participants motivated and on edge throughout the event. The competition highlighted the importance of precision and speed in coding, leaving participants with a sense of achievement and excitement for future challenges.

## Event Gallery





# CONQUEROR'S CLASH: BGMI TOURNAMENT

12th November, 2024

## Event Details

On November 12, 2024, The Conqueror's Clash brought the gaming community together for a thrilling online BGMI tournament. Multiple teams, with a maximum of 4 players each, battled fiercely for a prize pool of ₹3000. The tournament tested participants' strategic thinking, coordination, and survival skills in high-stakes custom matches. Strict rules against hacking and cheating ensured a fair and competitive environment, allowing teams to display their best gameplay. Players showcased impressive teamwork, quick decision-making, and sharp reflexes, making every match a spectacle to watch. The event successfully created an engaging and competitive atmosphere, bringing gaming enthusiasts together and celebrating the spirit of e-sports.

## Event Gallery



# DESIGNSCAPE

12th November, 2024

## Event Details

On November 12, 2024, DesignScape challenged participants to unleash their creativity in an exciting design competition open to solo and team entries. Using tools like Adobe, Figma, and Sketch, participants crafted original and visually captivating designs submitted in JPEG/PNG formats. The event emphasized creativity, technical proficiency, and relevance to the given theme, with entries evaluated on visual appeal and innovation. Designers showcased their talent by pushing the boundaries of imagination and design excellence. With immense participation, DesignScape encouraged students to think outside the box, while the organizers ensured a smooth experience through timely updates and seamless coordination, making the event both inspiring and rewarding.

## Event Gallery



# TECHSCRIBE

12th November, 2024

## Event Details

On November 12, 2024, TechScribe hosted an online article-writing competition aimed at encouraging originality and creative expression. Participants submitted articles following the provided guidelines, with a strict emphasis on originality, as plagiarism was prohibited. The competition offered a platform for students to showcase their writing skills and creativity, allowing them to explore unique topics and ideas. TechScribe fostered an environment of intellectual growth, where participants could express their thoughts and contribute to the literary community. The event highlighted the power of words and imagination, inspiring participants to push the boundaries of creativity and strengthen their writing abilities.

## Event Gallery



# QUIZATHON: RAPID FIRE

13th November, 2024

## Event Details

On November 13, 2024, Quizathon: Rapid Fire was a high-energy, offline quiz event organized by CCET ACM-W. Held in a physical location, the event allowed individual participants to test their knowledge on programming, computer science concepts, and major tech companies/events. The quiz was conducted through the Kahoot! platform, providing a competitive and interactive environment for participants. With an entry fee of ₹20 per person, attendees brought their charged devices, ensuring smooth participation and an engaging experience. Quizathon: Rapid Fire not only challenged participants' knowledge but also highlighted the importance of staying updated with the latest industry trends, offering a fun and exciting platform for tech enthusiasts to showcase their expertise.

## Event Gallery



# AI IN GAMING

By Opinder

Artificial Intelligence is transforming the gaming landscape in ways that go far beyond the traditional scripted experiences and predictable behaviors we've grown accustomed to. From creating NPCs that learn and evolve, to offering dynamic narratives that change in response to player decisions, to implementing adaptive difficulty levels that challenge players intelligently, AI is revolutionizing the way we play and experience video games.

## NPCs That Learn and Evolve

In traditional gaming, Non-Playable Characters (NPCs) have been confined to pre-programmed behaviors and interactions. Once players learn these patterns, NPCs become predictable, reducing the sense of immersion. However, AI is now enabling NPCs to adapt and respond to players in real-time, creating far more engaging and believable experiences.

AI-powered NPCs are capable of understanding player behavior and making decisions based on that understanding. For example, if a player consistently uses stealth tactics, NPCs might start setting traps or patrolling in a way that counters this strategy. Games like "Middle-Earth: Shadow of Mordor" and its sequel, "Shadow of War", introduced the Nemesis System, which allows enemies to remember past encounters and adapt, creating personalized rivalries and alliances that make the world feel alive. This is just the beginning, as advancements in machine

learning and natural language processing could lead to NPCs that hold actual conversations, learn from players' dialogue choices, and remember past interactions in a more human-like manner.

Imagine playing an open-world game where NPCs aren't just programmed to repeat the same lines or give identical missions to every player. Instead, they could have unique personalities and goals that evolve over time. They could form relationships with the player and other NPCs, making the in-game world more dynamic and unpredictable. The possibilities for storytelling and engagement are enormous, as games become less about static, linear experiences and more about personalized, interactive stories.

## Real-Time Story Changes

Storytelling in video games has traditionally followed branching paths, where a set of player decisions can lead to different endings. While this system has allowed for some variability, it still relies on predetermined outcomes. AI, however, is taking narrative design to new heights by allowing stories to change in real time based on player actions, creating a truly dynamic narrative experience.

AI-driven story engines can analyze player behavior and adjust the plot on the fly. Instead of choosing from pre-set dialogue options or fixed story branches, players might find themselves in a world where every action has a ripple effect, influencing



influencing the narrative in ways they might not even predict. Games like “Detroit: Become Human” have shown the potential for intricate branching narratives, but AI could make this concept even more sophisticated. AI could generate unique events and story arcs for every playthrough, reacting to subtle choices and creating a more personalized and emotionally engaging experience.

For example, if a player frequently chooses aggressive options, the world might become more hostile, with NPCs growing wary or even forming factions to counter the player. Alternatively, if the player is compassionate and kind, alliances could form, or characters might be more willing to help. AI could also introduce unexpected challenges or plot twists based on the player’s personality, habits, and choices, making every playthrough distinct.

#### Adaptive Difficulty

One of the most significant ways AI is improving gaming experiences is through adaptive difficulty. In the past, players had to choose a difficulty level before starting a game, and that level would remain relatively static throughout. This often led to frustration for some players who found the game either too hard or too easy. Adaptive difficulty, powered by AI, adjusts the challenge level in real time, providing a smoother and more enjoyable experience.

AI algorithms analyze player performance and make adjustments as needed. If a player is struggling with a particular section, the AI might make enemies less aggressive or provide additional resources. On the other hand, if the player is breezing through, the AI could increase the challenge by enhancing enemy

AI, reducing resources, or introducing new obstacles. This creates a more tailored experience, keeping players engaged without overwhelming or boring them.

Games like “Left 4 Dead” use an AI “Director” that dynamically adjusts the game’s intensity based on player performance, ensuring that the action remains thrilling and unpredictable. Similarly, “Resident Evil 4” secretly adjusts enemy behavior and resource availability based on how well the player is doing, making the horror experience more balanced. In the future, AI could become even more sophisticated, not only adjusting the difficulty but also learning about players’ habits and predicting their strategies to keep them on their toes.

#### AI: Gaming Partner or Competitor?

As AI becomes more integral to gaming, one of the most fascinating questions is whether AI will act more as a gaming partner or a competitor. The answer largely depends on how developers choose to implement AI.

1. AI as a Partner: In many cases, AI is designed to enhance the player experience, either by playing cooperatively or providing a more immersive world. For example, AI companions could assist players by learning their play style and adapting accordingly, making them valuable allies in both combat and puzzle-solving scenarios. This could lead to a sense of camaraderie and even emotional attachment, as AI companions grow and evolve alongside the player.

In games like “The Last of Us”, the AI character Ellie responds intelligently to situations, helping the player and interacting with the environment in realistic ways. Future games could take this even further, allowing AI partners to form strategies, learn from past

encounters, and even develop unique personalities over time. This would deepen player investment and create a richer experience.

2. AI as a Competitor: On the flip side, AI could also serve as a formidable competitor, providing players with a challenging and realistic opponent. Traditional game AI often follows predictable patterns, but advancements in machine learning are enabling AI to become more strategic and less predictable. Games like "Dota 2" and "StarCraft II" have seen AI systems like DeepMind's AlphaStar take on human professionals with astonishing success.

If AI continues to advance at this rate, it could become a powerful rival in multiplayer games, forcing players to adapt and think creatively. This could make competitive gaming more exciting, but it also raises questions about fairness and the potential for AI to dominate human players. Balancing AI in competitive settings will be crucial to ensure that games remain enjoyable for all players.

### The Future of AI in Gaming

The future of AI in gaming is incredibly promising. As AI technology continues to evolve, we can expect more lifelike NPCs, dynamically changing narratives, and adaptive experiences that make games more engaging than ever before. Whether AI becomes more of a partner or a competitor will likely depend on the preferences of players and developers alike.

Ultimately, AI is poised to be both a companion and a challenger, enhancing our gaming experiences while providing new ways to test our skills. As AI continues to learn and adapt, the line between a virtual opponent and a human player will blur, making for an excit-

ing and unpredictable future in gaming. Whether you're teaming up with an AI partner or facing off against an AI adversary, one thing is certain: the age of intelligent, adaptive gaming is just beginning.

# SMART HOMES, SMARTER PROBLEMS: THE AI BACKLASH

By Kriti Kamboj

With the promises of convenience, efficiency and security smart homes become an important part of modern lifestyle. Whether it be voice-activated assistants and automated lighting systems or even smart refrigerators, the addition of artificial intelligence (AI) into our houses have changed a lot about our nature of interaction with our living space. Nevertheless, like any major technological advancement, smart homes come with their new challenges. This essay is about the privacy problems and smart home device blunders AI can create.

## The Allure of Smart Homes

Smart homes are popular because they help make everyday tasks easier and improves our lives. Picture a house that knows the time you usually wake up and that automatically sets the thermostat to your favourite wake-up temperature, prepared your morning coffee and started playing your most uplifting songs. There are even smart homes that have cameras, sensors that can set to automatically lights which go on and off based on where you are in the house. The ease and efficiency of these systems can save you time, energy and provide some peace of mind.

## Weakness On Data Security

Smart home devices tend to collect a lot of data — making them very potential targets for hackers. Problem of cybersecurity holes can allow people to gain access to personal

info, giving them the opportunity for identity theft, financial fraud, and other types of criminal activity. Hackers have hijacked smart devices, covertly using them to spy on their victims. For example, an incident where hackers broke into smart cameras, spying on families from afar, and planning a robbery at the time of home alone along with the security passwords of the safe they might have gained through spying. It shows the weaknesses for their security and need for more manual work in smart home technology.

## The Privacy Trade-Off

Nevertheless, the convenience of smart home technology comes at a high price i.e. privacy. These so-called smart devices are data gathering and transmitting entities and they have the power to transfer most of your information with little to no knowledge on your end. This data consists of everything from preferences to daily work schedules and sensitive information. A smart speaker may record some of your conversations, a smart thermostat may monitor when you too are home and so on from smart cameras that may expose private moments. But who controls this data and what is being done with it? This question remains a mystery.

## The Missteps of AI

Even though AI is powerful, it can be wrong too. Given the reality of smart home, where devices regularly make mistakes and misinterpret commands with comical or inconve-

nient results. The voice activated assistants are susceptible to commands being misinterpreted as one another, triggering unintended actions. For instance, where smart speakers created unwanted online orders, or a bit of music played out-of-turn. Such errors are usually harmless but they represent an important point being that AI is still not able to comprehend the context. This difference has produced frustrating—and occasionally laugh-out-loud funny situations.

### The Dystopian Potential

Worried about AI could be misused when it integrates more with our house. There are smart home technology that can monitor and influence behaviour in very science fiction-y way. It can be scary to imagine a home that follows your every step, listens all your conversations, and can change everything around you. Smart home technology could be the ultimate surveillance tool and an inescapable measure of control; a worst case leads to a world where our homes offer no retreat from either the state or any ubiquitous sensor network that does not know what it means to have personal space. This kind of surveillance can easily be turned into behavioural control, and with it privacy will become a thing of the past acting only as an historical thing.

### Striking a Balance Between Innovation and Accountability

But for all the obstacles to mass adoption of smart home tech, there are some worth acknowledging. The secret to sidestepping all that doom and gloom is finding the mid-point between innovation and responsibility. The design and deployment of such smart home devices must consider security and privacy from the perspective of manufactur-

ers/developers. Risks can be mitigated using strong encryption, regular software updates, and transparent data practices. Also, users through their simple act of knowing the device they are using or what sort of data is being electrocuted on them to share and can go an extra mile in ensuring privacy. Teaching consumers how to secure their devices properly is an essential part of effectively building a more secure smart home space.

### Legal and Ethical Implications

We need regulations and ethical guidelines in place most of all to make sure that the benefits of smart home technology do not come at the expense of privacy and security. Clearer standards for data protection, transparency, and user consent need to be supplied by governments and regulatory bodies. Such regulations ought to be created to stay ahead of technological innovations without compromising personal freedoms. Companies should practice ethics with user privacy being the utmost priority when safety matters.

### The Future of Smart Homes

The bright future of smart homes represents itself along with some challenges. With the continued development of AI, continuously also the already potential for innovativeness. Addressing these issues early, creating space for the development of smart home technology to carry out its promises interestingly, and achieving smart home technology with minimal risks. This responsibility and transparency are everyone's jobs from manufacturers pricing their solutions right up to policy makers. And users need to be vigilant, makers need to make security their top priority and regulators in reactive mode because the world is changing. If we take these steps,

,smart homes will be as convenient and efficient but still privacy and security can also be ensured.

### Conclusion

In conclusion, smart homes represent an advancement in technology offering convenience and efficiency for the users. However, this leap comes with potential threats, particularly concerning privacy and security. The AI backlash is a reminder that, while technology can enhance our lives, it also requires careful consideration and responsible management. By balancing innovation and security, we can use AI in correct and efficient manner benefiting us. The future of smart homes depends on our ability to address these challenges thoughtfully, enhancing our lives through technology without compromising our privacy and security.



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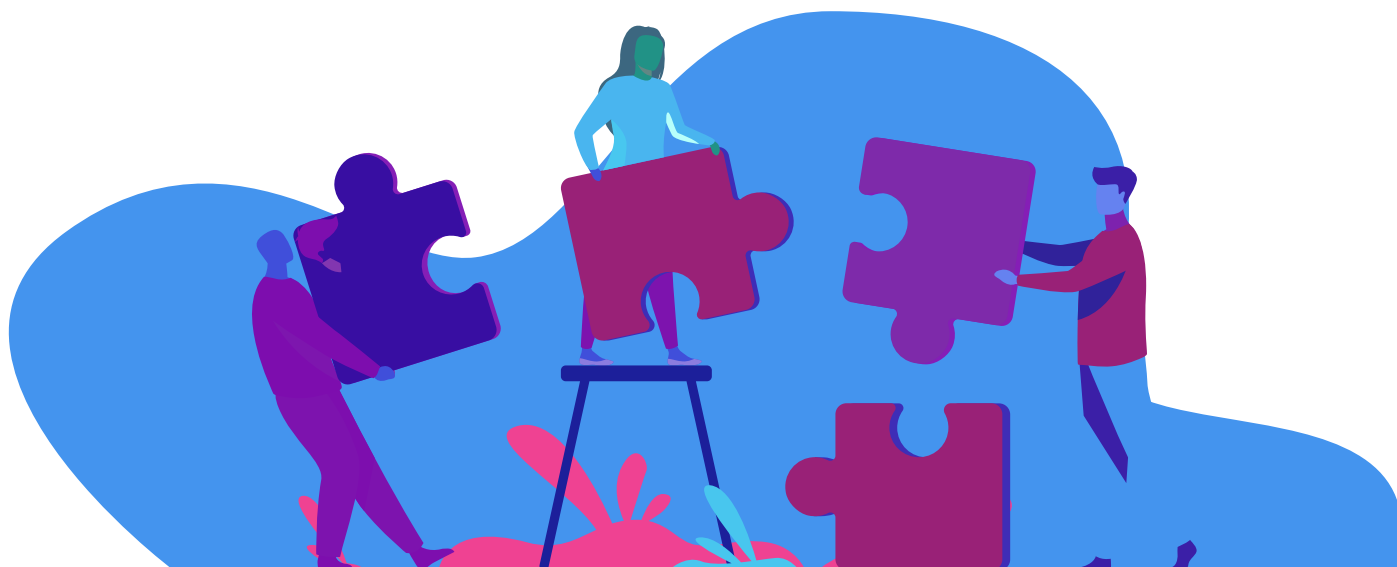
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"Scientists explore the mysteries of what exists, while engineers bring to life what once only existed in dreams."

Theodore von Kármán  
Pioneering Aerospace Engineer and Physicist

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