

Polytechnic Reader and Web Addict's Hotspot

# PRAWAH

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DEPARTMENT OF COMPUTER ENGINEERING  
BLOCK-F, K. D. POLYTECHNIC, OPP. T. B.  
HOSPITAL, PATAN - 384265

## **About Department**

Department of Computer Engineering at K. D. Polytechnic, also known as Kilachand Devchand Polytechnic, was established in the year 2001 in Patan, Gujarat. Under the leadership of Shri R. M. Shaikh, the department has been making significant strides in the field of technical education.

With a total intake of 180 students, the Computer Department aims to provide a comprehensive and modern education in the field of computer science and technology. The department is dedicated to equipping students with the necessary skills and knowledge to excel in the ever-evolving field of Computer Engineering.

Recognizing the importance of incorporating technology into the learning process, the department actively utilizes online teaching-collaborating tools like MS Team by Microsoft. These tools provide a platform for sharing resources, conducting assessments, and engaging in related activities. By leveraging these tools, the department embraces a blended approach to education, combining traditional teaching methods with active learning pedagogy.

The Computer Department at K. D. Polytechnic places a strong emphasis on contemporary technical education. Students are exposed to a wide range of subjects, including programming languages, software development, database management, networking web development, and more. The curriculum is designed to provide a holistic understanding of computer science concepts while also instilling practical skills through hands-on projects and real-world applications.

The faculty members of the Computer Department are experienced and highly qualified in their respective fields. They play a crucial role in guiding and mentoring students, ensuring a conducive learning environment. The department encourages faculty members to stay updated with the latest advancements in the industry, fostering a culture of continuous learning and professional development.

Beyond the classroom, the Computer Department promotes extracurricular activities and encourages students to participate in various technical events, workshops, and competitions. These opportunities allow students to showcase their talents, enhance their problem-solving abilities, and develop essential teamwork and leadership skills.

The Computer Department at K. D. Polytechnic is committed to nurturing well-rounded computer professionals who are prepared to meet the demands of the industry. By combining theoretical knowledge with practical experience and leveraging technology for effective teaching and learning, the department strives to produce competent and skilled individuals who can contribute to the ever-growing field of computer science and technology.

## **Head Message**

Welcome to the Department of Computer Engineering. The Department of Computer Engineering strives for Excellence in teaching and learning and ethical professional development. We are proud to have State-of-the-art laboratories and technical staff to support our academic program. We have well balanced and innovative teaching-learning atmosphere and qualified and well experienced dedicated academic staff. The students here are encouraged to participate in co-curricular and Extra-curricular activities for personal development. There are many careers paths for Computer Engineers. They are essential in Government agencies, Private and Public sector undertaking to complete various Mega Projects.

**Shri R. M. Shaikh**

**(HOD Computer Department)**

## **Vision**

To produce competent diploma engineers through quality education with moral values to meet need of the society.

## **Mission**

- ✚ To provide quality education in both theory and practical to solve the problems.
- ✚ To encourage students for co-curricular activities.
- ✚ Provide exposure to latest technology.
- ✚ Transform students into socially responsible and ethical professional

## **Program Educational Objectives**

The diploma holders will be:

- ✚ Competent with knowledge of Computer Engineering to pursue high education.
- ✚ Proficient to solve problems that are technically, economically, socially and environmentally acceptable.
- ✚ Efficient team leader, effective communicator and entrepreneur with ethics and moral values.

## Program Outcome

**Basic and Discipline specific knowledge:** Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.

**Problem analysis:** Identify and analyse well-defined engineering problems using codified standard methods.

**Design/ development of solutions:** Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.

**Engineering Tools, Experimentation and Testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.

**Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.

**Project Management:** Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.

**Life-long learning:** Ability to analyse individual needs and engage in updating in the context of technological changes.

## Program Specific Outcome

After the completion of the program, in future students will be able to have

- ✚ An ability to analyses, design, develop and test software using different programming language
- ✚ An ability to setup, analyses, design and troubleshoot network and computer hardware issues.

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## **AI: Unleashing the Potential of the Technological Frontier**

### **Introduction**

Artificial Intelligence (AI) has emerged as a transformative force that is reshaping industries, economies, and the way we live and interact with technology. With its ability to analyze vast amounts of data, make predictions, and perform tasks with precision, AI has become an indispensable tool across various domains. From self-driving cars to personalized recommendations, AI has revolutionized our world and is poised to have an even greater impact in the future. In this article, we delve into the vast landscape of AI, exploring its applications, challenges, and the ethical considerations surrounding its rapid advancement.

### **Understanding Artificial Intelligence**

At its core, AI refers to the development of computer systems capable of performing tasks that would typically require human intelligence. This intelligence can be classified into two broad categories: narrow AI and general AI. Narrow AI focuses on specific tasks, such as speech recognition or image classification, while general AI aims to replicate human-level intelligence across a wide range of domains. While general AI remains an aspirational goal, narrow AI has already made significant strides.

## **Applications of Artificial Intelligence**

AI has permeated numerous sectors, empowering industries to enhance efficiency, improve decision-making, and create innovative solutions. In healthcare, AI is being used to diagnose diseases, analyze medical images, and develop personalized treatment plans. In finance, AI algorithms are employed for fraud detection, risk assessment, and algorithmic trading. In transportation, self-driving cars are leveraging AI to navigate roads and reduce accidents. From customer service Chabot's to virtual personal assistants, AI has become an integral part of our daily lives.

## **Machine Learning and Deep Learning**

Machine learning (ML) is a subset of AI that focuses on developing algorithms that can learn from data and make predictions or decisions. ML models are trained using large datasets and can identify patterns, make predictions, and adapt to new information. Deep learning, a subfield of ML, utilizes neural networks with multiple layers to process complex data. Deep learning has revolutionized image and speech recognition, natural language processing, and has achieved breakthroughs in areas such as computer vision and language translation.

## **Challenges in AI Development**

While AI holds immense promise, it also presents challenges that need to be addressed. One significant concern is the ethical implications of AI. As AI becomes more autonomous and capable of making decisions, questions arise regarding accountability, bias in algorithms, and the potential impact on employment. Ensuring transparency, fairness, and ethical guidelines in AI development are crucial to building trust and safeguarding against unintended consequences.

Another challenge is the need for vast amounts of data to train AI models effectively. Access to quality data can be a limiting factor, especially in domains where data privacy is paramount. Additionally, there is a shortage of skilled AI professionals

capable of developing, implementing, and maintaining AI systems. Addressing these challenges requires a collaborative effort from governments, industries, and academia.

## **The Future of AI**

Looking ahead, the future of AI is incredibly promising. Advancements in AI research, coupled with the increasing availability of data and computing power, will drive breakthroughs across various domains. We can expect AI to play a pivotal role in fields like climate change, cybersecurity, personalized medicine, and smart cities. However, it is crucial to approach AI development with a responsible and ethical mindset, ensuring that its benefits are accessible to all and that its potential risks are mitigated.

## **Conclusion**

Artificial Intelligence has undoubtedly transformed our world, and its potential for further advancement is awe-inspiring. The applications of AI are vast and varied, revolutionizing industries, enhancing productivity, and enabling groundbreaking discoveries. From healthcare to finance, transportation to customer service, AI is reshaping the way we live and interact with technology.

However, as AI continues to evolve, we must address the challenges it presents. Ethical considerations are paramount, ensuring that AI is developed and deployed responsibly, with transparency, fairness, and accountability. Bias in algorithms and the potential impact on employment must be carefully monitored and addressed to ensure equitable outcomes for all.

Access to high-quality data remains a challenge, and data privacy concerns must be taken seriously. Collaboration between governments, industries, and academia is necessary to establish frameworks that balance data availability with privacy protection, enabling the responsible use of AI.

Investing in education and training programs is crucial to address the shortage of skilled AI professionals. By equipping individuals with the necessary knowledge and skills, we can foster innovation and drive AI development to its fullest potential.

Looking to the future, AI holds immense promise. Advancements in AI research, coupled with the exponential growth of data and computing power, will unlock new possibilities and solutions to complex problems. AI has the potential to tackle challenges in climate change, cybersecurity, personalized medicine, and urban planning, among others.

As we embrace the future of AI, it is essential to remember that its development and deployment should be guided by a responsible and ethical approach. By harnessing the power of AI while upholding human values, we can create a future where AI acts as a tool to augment human potential, promote inclusivity, and contribute to the betterment of society as a whole.

In conclusion, Artificial Intelligence is an extraordinary technological frontier that is reshaping our world. With careful navigation, collaboration, and ethical considerations, we can unlock its vast potential, leading us towards a future where AI is a force for good, empowering humanity to thrive in ways we have yet to imagine.

**Vijay Solanki**

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## Emotional Intelligence through Fairy Tales: A Physiological Story

### Introduction

This research paper is an attempt to explore a way of understanding the unconscious

contents of the mind through the use of the psychological concepts found in fairy tales. It is my belief that this understanding can be therapeutically valuable in working with children, students, to aid them in solving personal growth problems. I think it is



especially important for us to enrich our lives today with the wisdom of these fairy tales

from the past. One single fairy tale may open our eyes to understand the inner real world of the growing and groping human being.

Sigmund Freud, founder of Freudian psychology, believed that fairy tales were especially helpful in illustrating theories of the mind because they were similar to dreams. Like dreams, fairy tales contain symbols that express conflicts, anxieties and desires that humans tend to repress into their unconscious.

What's the best way of dealing with anger or sadness? How can we know what others are feeling, and why are sympathy and tolerance so important? Stories don't only tell our children about factual information; they also enable us to pass on valuable advice to them about empathy and emotions. In today's world, emotional intelligence is very important and it is well worth developing it from a young age.

### **The Specific place of Fairy Tales in literature**

Fairy tales belong to the oral tradition. They have been transmitted in the rural world of ages. Contrary to the Greek Myths and the Animal Tales which have inspired the tales of Aesop and Jean de la Fontaine. Very lately they have been given in written form. Charles Perrault selected some tales, which he wrote in verse for the attention of the Court of the King of France in the 17th century. Among them the most famous are Blue Beard, Sleeping Beauty and Cinderella. In the 19th century, the Grimm brothers wrote a transcript of some tales from different parts of Germany together with their local versions. Those translations have been pooled with the common reading fund of European children. Among those are Snow White, Hansel and Gretel and The Pied Piper of the City of Hamelin. Today, the stories that peoples of the world tell their children continue to be transcribed.

The definitions given below shall help in comprehending certain aspects of fairy tales which might become helpful in comprehending the term 'Fairy Tale' as well as meanings attached to it. Fairy Tale signifies belief in the supernatural, not the suspension of belief. We all believe in the extra-ordinary of Once Upon a Time. We need to believe. We breathe through our tales. **Vincenzo di Kastiaux**

Where I asked, what is a fairytale? I should reply, Read Undine: that is a fairytale ... of all fairytales I know, I think Undine the most beautiful. **George MacDonald, the Fantastic Imagination**

As Stith Thompson points out, “Talking animals and the presence of magic seems to be more common to the fairy tale than fairies themselves.” A traditional story written for children that usually involves imaginary creatures and magic. Having a special and attractive or beautiful quality, like something in a fairy tale. **Cambridge Dictionary**

A fairy tale is a story for children involving magical events and imaginary creatures. A fairy tale place or situation is so wonderful that you can hardly believe that it is real. **Collins Dictionary**

### **Fairy tales as a psychoanalytic theory**

Psychoanalytic theory, founded by Sigmund Freud during the twentieth century as a means to evaluate and cure mentally disturbed patients, lurks beneath the surface of traditional Fairy Tales, barely hidden. When these stories are read in Freudian terms of latent and manifest content, (as described in ‘The Interpretation of Dreams’), it’s possible to read familiar narratives as psychological tales of sexual development, personal growth and female suppression.

Niranjana Sanyal writes, “An important aspect of these stories is how they present protagonists that children can relate to, and show how those heroes overcome the problems they face- the problems children are afraid of having to face themselves. Hearing these stories allow the children reassurance that even though the situation seems desperate, the clever and dexterous child can take care of himself.”

The stories that children read always continue to teach them important lesson like fighting your own battles and staying motivated, that go on to help them throughout their everyday life.

Let us examine some critical opinions of the scholars to understand the connection of literature and psychology

“The wonder is that the characteristic efficacy to touch the inspire deep creative centers dwells in the smallest nursery fairy tale – as the flavor of the ocean is contained in a droplet, or the whole mystery of life within the egg of a flea.”

- *Joseph Campbell*

“If you want your children to be intelligent, read them fairy tales. If you want them to be more intelligent, read them more fairy tales.”

- *Albert Einstein*

“When I was a little girl I used to read fairy tales. In fairy tales you meet Prince Charming and he's everything you ever wanted. In fairy tales the bad guy is very easy to spot. The bad guy is always wearing a black cape so you always know who he is. Then you grow up and you realize that Prince Charming is not as easy to find as you thought. You realize the bad guy is not wearing a black cape and he's not easy to spot; he's really funny, and he makes you laugh, and he has perfect hair.”

- *Taylor Swift*

“If I’m honest I have to tell you I still read fairy-tales and I like them best of all.”

- *Audrey Hepburn*

“Fairy tales do not tell children the dragons exist. Children already know that dragons exist. Fairy tales tell children the dragons can be killed.”

- *G.K. Chesterton*

“There is the great lesson of 'Beauty and the Beast,' that a thing must be loved before it is lovable.”

- *G.K. Chesterton*

“When I examine myself and my methods of thought, I come to the conclusion that the gift of fantasy has meant more to me than any talent for abstract, positive thinking.”

- *Albert Einstein*

“Fear isn't so difficult to understand. After all, weren't we all frightened as children? Nothing has changed since Little Red Riding Hood faced the big bad wolf. What frightens us today is exactly the same sort of thing that frightened us yesterday. It's just a different wolf. This fright complex is rooted in every individual.”

- *Alfred Hitchcock*

Swiss psychologist Carl Jung stated that, “it is through fairytales that one can best study the comparative anatomy of the psyche. In the field of Jungian analytical psychology, fairy tales are viewed as playing an essential role in the abstention of a wider understanding of human nature. This is because in stories such as Rumpelstiltskin and Snow White there is much less cultural-conscious material than there are in myths and legends, which means they are able to mirror the basic patterns of the psyche more clearly.”

In her 1970 book, *The Interpretation of Fairy Tales*, Jungian psychologist Marie-Louise von Franz describes “Fairy tales as the purest and simplest expression of the collective unconscious psychic process... is representing the archetypes in their simplest, barest and most concise form. Archetypes are defined as universal, innate models of people, behaviors or personalities that play a role in influencing human behavior.”

From the detailed study of various critical opinions, we come to know that many psychologists and scholars have recognized the importance of fairy tales in understanding human growth and development.

Fairy tales are a huge source of knowledge and wisdom. They teach about other ways of thinking and acting. Fairy tales show patterns of behaviour that support people in various emotionally charged situations, and they help relieve tension and provide solutions to problems. In addition, they enhance bonding between parents and children, enabling closer contact, which helps parents better understand a child's emotions, feelings and their outlook of the world.

Fairy tales are a therapeutic means of coming to terms with reality. Favorite stories are often very closely related to the symptoms of a particular problem, a personal experience or behavior. For this reason, fairy tales are used in various types of psychotherapy, not only for children, but also for adults. They suggest a better approach to problems, especially due to their figurative nature and emotional portrayal. In order to have a therapeutic effect, it is necessary that a fairy tale evokes a wide range of emotions.

### **Tips to become a therapist for your child**

When a parent reads a story to a child it is not automatically considered fairy tale therapy. It only becomes one when a parent sets a clear goal regarding what they want to achieve. They must choose a suitable fairy tale similar to the situation their child is facing. Then the child can find solutions to their problems while feeling safe and secure in their fantasy world.

The child can listen to the story and find the solutions themselves. However, it is much more effective when the child identifies with the main character in the story, but this depends on the specific problem, the type of fairy tale, its focus and the hidden meaning. The effect of the therapy can be taken to the next level, through drawings, playing a game, play-acting or creating figures of the main character or other characters.

A parent knows their child best and can therefore create their own fairy tale tailored to the needs of their child. If so, the following principles are important to follow.

- ✚ Select a hero and describe him who resembles the child as much as possible in terms of character or appearance. It means resembles by head or heart. Fix an appropriate hero according to the age of child.
- ✚ Narrate in detail the environment and the circumstances of the hero in which the child should have similarities with his situation.
- ✚ Describe a problem that is similar to the one the child needs to solve.
- ✚ Describe the emotions, ideas, feelings, thoughts, personality and behavior of the hero.

- ✚ Describe how the protagonist struggles to solve the problem even when in a critical situation. The child must learn that they can also solve their problem in the same way.
- ✚ Some specific problems like paralyzing fear, problems at school, collage or kindergarten and more, grief over a loss, solving a crisis. This kind of situations introduced to children to create suitable atmosphere for solving children's problem with care and sensitivity.

## **Conclusion**

Fairy tales are crucial in the development of a child's imagination for it is through stories that they learn proper behaviors and moral lessons of our society. Magical characters like the Cinderella, the talking frog and the fairy god mother are likely to remain in the imagination for a life time. The adventures reflect the struggles and challenges we face in our life.

The story of the Pied Piper reminds that every parents has to deal with letting go of their children.

Fairy tales are psychological mirrors which reflect our inner personality. The psychological content of fairy tales can help young children deal with fears, feelings and impulses. They may have no other way of working trough.

“We can never exhaust the depths of myths and fairy tales--of that we may be certain; but then neither can anyone else. And a cupped handful of the fresh waters of life is sweeter than a whole reservoir of dogma, piped and guaranteed.”

- *Heinrich Zimmer*

**Nistha Dave**

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## **Securing the Future: Exploring the Ever-Evolving Landscape of Cybersecurity**

### **Introduction**

In our increasingly interconnected world, where digital technologies permeate every aspect of our lives, the need for robust cybersecurity measures has never been more



critical. As technology advances at a rapid pace, so do the threats posed by cybercriminals. From data breaches to ransomware attacks, the digital landscape is fraught with risks that can disrupt economies, compromise personal information, and undermine public trust. In this article, we delve

into the future of cybersecurity, exploring emerging trends, challenges, and the innovative solutions that will shape the cybersecurity landscape in the years to come.

## **The Changing Cybersecurity Landscape**

The rapid proliferation of internet-connected devices, the rise of cloud computing, and the widespread adoption of artificial intelligence and machine learning have reshaped the cybersecurity landscape. As more devices become interconnected through the Internet of Things (IoT), the attack surface for cybercriminals expands, creating new vulnerabilities to exploit. Moreover, the increasing reliance on cloud infrastructure introduces unique security challenges, requiring robust measures to protect sensitive data and ensure privacy.

## **Artificial Intelligence and Machine Learning in Cybersecurity**

Artificial intelligence (AI) and machine learning (ML) have emerged as powerful tools in combating cyber threats. AI-powered systems can analyse vast amounts of data, identify patterns, and detect anomalies, enabling organizations to detect and respond to cyberattacks in real-time. ML algorithms can learn from past attacks, constantly adapting and evolving to stay one step ahead of cybercriminals. These technologies are revolutionizing threat detection, vulnerability assessments, and incident response, empowering cybersecurity professionals to proactively defend against emerging threats.

## **Emerging Threats and Challenges**

As technology advances, cybercriminals are becoming more sophisticated, employing advanced tactics and techniques to exploit vulnerabilities. Nation-state attacks, ransomware, and supply chain attacks are on the rise, posing significant challenges for cybersecurity practitioners. Additionally, the increasing interconnectedness of critical infrastructure and the digitization of industries such as healthcare and finance present new targets for cybercriminals, necessitating a holistic and proactive approach to security.

## **Securing the Internet of Things**

The rapid growth of IoT devices presents a unique set of challenges for cybersecurity. The sheer number and diversity of interconnected devices, coupled with often inadequate security measures, create vulnerabilities that can be exploited by malicious actors. Securing the IoT requires robust authentication protocols, encryption mechanisms, and ongoing monitoring to detect and respond to potential threats. Collaborative efforts among manufacturers, policymakers, and cybersecurity experts are crucial to establishing industry standards and best practices to safeguard IoT devices and networks.

## **Privacy and Data Protection**

The exponential growth of data and its increasing value make privacy and data protection paramount in the future of cybersecurity. Stricter regulations, such as the General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA), highlight the need for organizations to handle personal data responsibly. Encryption, anonymization techniques, and privacy-enhancing technologies will play a pivotal role in safeguarding sensitive information while enabling secure data sharing and collaboration.

## **Collaboration and Education**

Cybersecurity is a collective effort that requires collaboration and information sharing among stakeholders. Public-private partnerships, industry collaborations, and information sharing platforms are essential in developing effective defense strategies against evolving cyber threats. Furthermore, investing in cybersecurity education and training programs is crucial to address the shortage of skilled cybersecurity professionals. By equipping individuals with the knowledge and skills to combat cyber threats, we can build a resilient workforce capable of defending against emerging risks.

## **The future of cybersecurity holds both challenges and opportunities.**

Advancements in AI, ML, and automation will empower organizations to detect, mitigate, and respond to threats more effectively. These technologies will enable the development of intelligent security systems that can proactively identify and neutralize cyber threats before they cause significant damage. By analyzing vast amounts of data and identifying patterns, AI-driven systems can identify anomalies and potential vulnerabilities, allowing organizations to take preventive action.

Quantum computing, with its immense processing power, has the potential to revolutionize cryptography and bolster the security of digital systems. Quantum-resistant algorithms will become essential to protect sensitive information from being compromised by quantum attacks. While quantum computing presents a significant opportunity, it also poses challenges, as it could potentially render existing cryptographic systems obsolete.

As technology advances, cybercriminals will also leverage new tools and techniques, requiring a constant evolution in cybersecurity practices. Attacks targeting emerging technologies such as artificial intelligence, IoT, and cloud computing will become more sophisticated, necessitating a proactive and adaptive approach to cybersecurity. Organizations will need to invest in robust defense strategies, conduct regular risk assessments, and stay updated with the latest threat intelligence to mitigate emerging cyber risks effectively.

Collaboration will continue to be a key factor in combating cyber threats in the future. Public-private partnerships, information sharing platforms, and industry collaborations will be essential for exchanging knowledge, best practices, and threat intelligence. Sharing insights about emerging threats and attack methodologies will enable organizations to collectively strengthen their defenses and stay ahead of cybercriminals.

Privacy and data protection will remain paramount in the future of cybersecurity. Stricter regulations and compliance requirements will continue to emerge to protect individuals' personal information and ensure responsible data handling practices.

Encryption, anonymization techniques, and privacy-enhancing technologies will play a crucial role in safeguarding sensitive information while enabling secure data sharing and collaboration.

Investing in cybersecurity education and training programs is crucial to address the shortage of skilled cybersecurity professionals. As the demand for cybersecurity expertise grows, organizations need to prioritize building a skilled workforce capable of handling the evolving cyber landscape. By nurturing talent and promoting continuous learning, organizations can develop a strong defense against cyber threats and bridge the skills gap.

In conclusion, the future of cybersecurity will be shaped by technological advancements, emerging threats, and the collective efforts of stakeholders. As organizations embrace AI, ML, and automation, they will be able to detect and respond to threats in real-time. Collaboration and information sharing will play a pivotal role in staying ahead of cybercriminals. Privacy and data protection will be critical considerations, and investment in education and training will be vital for building a resilient cybersecurity workforce. By embracing these opportunities and addressing challenges head-on, we can secure a safer digital future for individuals, organizations, and societies as a whole.

**Vijay Solanki**

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## પુત્રી માટે પિતા

પિતા એ પુત્રીની પહેચાન હોય છે પિતા એ પુત્રીની શાન હોય છે.

દુઆ સ્વરૂપમાં રહે છે જીંદગીભર પિતા એ બેટી માટે વરદાન હોય છે.

પિતા બહારથી બેદર્દ હોય છે કારણકે તે મર્દ હોય છે.

પિતાને સમજવું પડે અંદરથી પિતા જેવો ક્યાં કોઈ હમદર્દ હોય છે?

પિતા પુત્રીના સપનાઓનું સ્પંદન હોય છે પિતા શાતા આપતુ ચંદન હોય છે.

પિતા હંમેશા રહે છે અંદરથી ભીંજાયેલા પિતા-પુત્રીના સંબંધને સહુના વંદન હોય છે.

**Nikita Thakor**

**196310307576**



## Design Pattern

Design patterns are typical solutions to commonly occurring problems in software design. They are like pre-made blueprints that you can customize to solve a recurring design problem in your code.

Most patterns are described very formally so people can reproduce them in many contexts. Here are the sections that are usually present in a pattern description:

- ✚ Intent of the pattern briefly describes both the problem and the solution.
- ✚ Motivation further explains the problem and the solution the pattern makes possible.
- ✚ Structure of classes shows each part of the pattern and how they are related.
- ✚ Code example in one of the popular programming languages makes it easier to grasp the idea behind the pattern.

Some pattern catalogues list other useful details, such as applicability of the pattern, implementation steps and relations with other patterns.

When a solution gets repeated over and over in various projects, someone eventually puts a name to it and describes the solution in detail. That's basically how a pattern gets discovered.

The concept of patterns was first described by Christopher Alexander in *A Pattern Language: Towns, Buildings, Construction*.

The idea was picked up by four authors: Erich Gamma, John Vlissides, Ralph Johnson, and Richard Helm. In 1994, they published *Design Patterns: Elements of Reusable Object-Oriented Software*, in which they applied the concept of design patterns to programming.

The book featured 23 patterns solving various problems of object-oriented design and became a best-seller very quickly.

Due to its lengthy name, people started to call it “the book by the gang of four” which was soon shortened to simply “the GoF book”.

## **Why should we learn design patterns?**

The truth is that you might manage to work as a programmer for many years without knowing about a single pattern. A lot of people do just that.

Even in that case, though, you might be implementing some patterns without even knowing it. So why would you spend time learning them?

- ✚ Design patterns are a toolkit of tried and tested solutions to common problems in software design. Even if you never encounter these problems, knowing patterns is still useful because it teaches you how to solve all sorts of problems using principles of object-oriented design.
- ✚ Design patterns define a common language that you and your teammates can use to communicate more efficiently. You can say, “Oh, just use a Singleton for that,” and everyone will understand the idea behind your suggestion. No need to explain what a singleton is if you know the pattern and its name.

## **Advantage of design pattern**

- ✚ They are reusable in multiple projects.
- ✚ They provide the solutions that help to define the system architecture.
- ✚ They capture the software engineering experiences.
- ✚ They provide transparency to the design of an application.
- ✚ They are well-proved and testified solutions since they have been built upon the knowledge and experience of expert software developers.

## **Types of design patterns**

### **Creational Patterns**

These patterns provide various object creation mechanisms, which increase flexibility and reuse of existing code. Creational design patterns are concerned with the way of creating objects. These design patterns are used when a decision must be made at the time of instantiation of a class (i.e., creating an object of a class).

#### **Types of Creational Patterns:**

- ✚ Factory Pattern.
- ✚ Abstract Factory Pattern.
- ✚ Singleton Pattern.
- ✚ Prototype Pattern.
- ✚ Builder Pattern.

### **Structural Patterns**

These patterns explain how to assemble objects and classes into larger structures while keeping these structures flexible and efficient.

Structural design patterns are concerned with how classes and objects can be composed, to form larger structures by identifying the relationships. They focus on, how the classes inherit from each other and how they are composed from other classes.

### **Types of Structural Patterns:**

- ✚ Adapter Pattern.
- ✚ Bridge Pattern.
- ✚ Composite Pattern.
- ✚ Decorator Pattern.
- ✚ Façade Pattern.
- ✚ Flyweight Pattern.
- ✚ Proxy Pattern.

### **Behavioural Patterns**

These patterns are concerned with algorithms and the assignment of responsibilities between objects.

In these design patterns, the interaction between the objects should be in such a way that they can easily talk to each other and still should be loosely coupled.

### **Types of Behavioural Patterns:**

- ✚ Chain of Responsibility Pattern.
- ✚ Command Pattern.
- ✚ Iterator Pattern.
- ✚ Mediator Pattern.
- ✚ Memento Pattern.
- ✚ Observer Pattern.
- ✚ State Pattern.

- ✚ Strategy Pattern.
- ✚ Template Pattern.
- ✚ Visitor Pattern.

## Architectural Patterns

Architectural Patterns are method of arranging block of functionality to address a need. Pattern can be used at software, system or enterprise level.

### Types of Architectural Patterns:

- ✚ Peer to Peer.
- ✚ Model View Controller.
- ✚ Interpreter.
- ✚ Blackboard.
- ✚ Micro services.
- ✚ Layer.
- ✚ Client Server Architecture.
- ✚ Pipe and Filter.
- ✚ Broker.

**Manav Patel**

**186310307065**

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### **Poem on Teacher**

शिक्षक हैं शिक्षा का सागर,  
शिक्षक बांटे ज्ञान बराबर ,  
शिक्षक मंदिर जैसी पूजा,  
माता-पिता का नाम है दूजा,  
प्यासे को जैसे मिलता पानी,  
शिक्षक है वही जिंदगानी,  
शिक्षक न देखे जात-पात,  
शिक्षक न करता पक्ष-पात,  
निर्धन हो या हो धनवान,  
शिक्षक को सब एक समान !

**Palak Dhobi**

**196310307017**

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## **Unleashing the Power of AI: A Journey into the Realm of AI**

### **Introduction:**

Artificial Intelligence (AI) has rapidly become a transformative force, revolutionizing various industries and reshaping the way we live, work, and interact. This article delves into the world of AI, exploring its origins, current applications, and future potential.

### **1. The Origins of AI: A Brief History**

The concept of AI dates back to the 1950s when scientists began exploring the idea of creating machines that could emulate human intelligence. One significant milestone was the Dartmouth Workshop in 1956, where the term "artificial intelligence" was coined, and researchers gathered to discuss the potential of AI. Over the years, advancements in machine learning and the development of neural networks have propelled AI to new heights.

### **2. Understanding AI: Breaking Down the Basics**

AI encompasses a wide range of technologies and techniques. Machine learning is a fundamental aspect of AI, where algorithms are trained on data to learn patterns and make predictions. Deep learning, a subset of machine learning, utilizes artificial neural networks inspired by the human brain to process complex information. Natural language processing focuses on enabling computers to understand and interact with human language.

### **3. Real-World Applications of AI**

AI is already making a significant impact across various sectors. In healthcare, AI algorithms can analyze medical images and assist in disease diagnosis with high accuracy. In finance, AI-powered algorithms are utilized for portfolio optimization and fraud detection. The transportation industry benefits from AI through autonomous vehicles and intelligent traffic management systems. In the entertainment field, recommendation systems based on AI algorithms personalize content suggestions for users.

### **4. Ethical Considerations and Challenges**

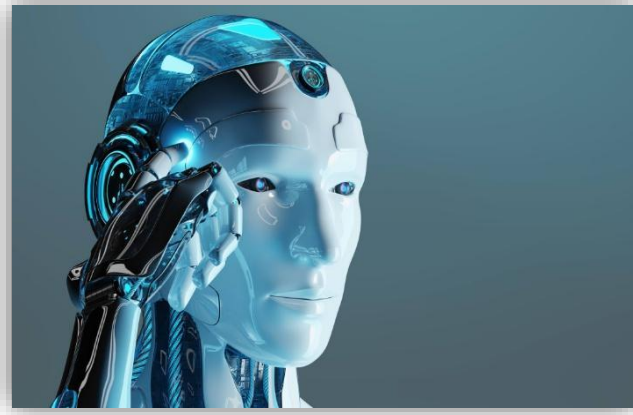
As AI advances, ethical concerns and challenges emerge. One significant concern is the potential bias in AI algorithms, which can perpetuate existing social biases or discriminate against certain groups. Privacy is another key issue, as AI systems often rely on vast amounts of personal data. Additionally, the impact of AI on employment raises questions about job displacement and the need for reskilling or upskilling workers.

### **5. The Future of AI: Exciting Possibilities**

The future of AI holds tremendous promise. Explainable AI, which focuses on making AI models more transparent and understandable, can help build trust and facilitate ethical decision-making. AI-assisted creativity enables artists, designers, and musicians to explore new frontiers and push the boundaries of their respective fields. AI's integration with space exploration can enhance our understanding of the universe and support interplanetary missions.

### **6. The Human Element: Collaborating with AI**

Contrary to popular belief, AI is not meant to replace humans but to augment their capabilities. Collaboration between humans and AI is crucial for maximizing AI's potential. AI can handle repetitive tasks, process large datasets, and provide insights, while humans bring creativity, critical thinking, and emotional intelligence to the table. By working together, humans and AI can solve complex problems and drive innovation.



## **Conclusion:**

Artificial Intelligence has evolved into a pervasive force that shapes our lives. Understanding its origins, current applications, and future potential is essential as we navigate the AI revolution. By embracing AI responsibly and harnessing its power, we can unlock a future of

unparalleled innovation and progress, where humans and AI collaborate to overcome challenges and create a better world.

**Ritik Joshi**

**206310307041**

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### Poem on Guru

गुरु बिना ज्ञान कहां,  
उसके ज्ञान का आदि न अंत यहां।

गुरु ने दी शिक्षा जहां,  
उठी शिष्टाचार की मूरत वहां।

अपने संसार से तुम्हारा परिचय कराया,  
उसने तुम्हें भले-बुरे का आभास कराया।

अथाह संसार में तुम्हें अस्तित्व दिलाया,

दोष निकालकर सुदृढ़ व्यक्तित्व बनाया।

अपनी शिक्षा के तेज से,  
तुम्हें आभा मंडित कर दिया।

अपने ज्ञान के वेग से,  
तुम्हारे उपवन को पुष्पित कर दिया।

जिसने बनाया तुम्हें ईश्वर,  
गुरु का करो सदा आदर।

जिसमें स्वयं है परमेश्वर,  
उस गुरु को मेरा प्रणाम सादर।

**Palak Dhobi**

**196310307017**

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## **5G Technology and its Potential**

In the ever-evolving landscape of technology, one innovation stands out with its immense(extensive) potential to revolutionize the way we connect and communicate. That revolutionary advancement is none other than “5G technology”. As a leading authority in SEO and copywriting, we delve(research) into the intricacies of 5G, exploring its transformative capabilities and the impact it can have on various industries and our daily lives.

### **Delving into the Core Concepts of 5G Technology**

To gain a profound understanding of the possibilities presented by 5G, we must first begin with the fundamental principles. The term "5G" represents the fifth generation of wireless technology, succeeding the widely-used fourth generation (4G) networks that currently serve as the foundation of our mobile connectivity. Distinguishing itself from its predecessors(former), 5G operates on higher radio frequencies, which results in accelerated data transmission and reduced latency(delay).

## **Breaking Barriers: The Speed Revolution of 5G**

At the forefront (front line) of 5G technology lies its remarkable speed, a truly game-changing advantage. With speeds surpassing those of 4G by up to "100 times faster," 5G unleashes (turn loose) a realm(field) of endless possibilities. Seamlessly streaming high-definition videos, downloading large files in mere seconds, and immersing(hang-up) oneself in lag-free virtual reality become ordinary experiences with the power of 5G.

## **Ultra-Low Latency: Redefining Real-Time Interactions**

Latency refers to the delay between sending and receiving data. 5G dramatically reduces latency, making it nearly "instantaneous". This improvement is crucial for applications like remote surgery, autonomous vehicles, and augmented reality, where split-second decisions are paramount(principal).

## **Connecting Billions of Devices: The Internet of Things (IOT)**

The emergence of 5G technology marks a significant step towards the era of the "Internet of Things (IOT)". With its capacity to accommodate a vast number of devices in close vicinity(neighborhood), 5G paves the way for the realization of smart cities, smart homes, and effortless integration(combination) of interconnected devices. From intelligent thermostats and wearable gadgets to industrial sensors, the IOT promises to bring about a transformative revolution in our daily lives.

## **Empowering Industry 4.0: Transforming Businesses**

In the business landscape, 5G plays a pivotal role in realizing the concept of "Industry 4.0". Manufacturing processes will become more efficient and automated, thanks to real-time data exchange between machines. Moreover, remote work will flourish as the low latency and high bandwidth facilitate video conferencing and collaboration like never before.

## **Healthcare Revolution: Enhancing Medical Services**

The healthcare industry stands to gain immensely (very great) from 5G technology. High-resolution imaging and remote consultations will be accessible even in remote areas. Doctors can perform surgeries using robotic tools from afar, reducing the need for travel and enhancing patient care.

## **Impact on Entertainment and Media**

The entertainment and media industries are on the brink of a significant transformation with the introduction of 5G technology. Streaming services will witness a remarkable improvement in user experience, delivering high-quality content seamlessly without any buffering. This advancement will elevate(raise) virtual reality and augmented reality experiences, revolutionizing not only the gaming and education sectors but also live events with more immersive and engaging interactions.

## **Challenges and Hurdles: Addressing Concerns**

While the potential of 5G technology is astounding(surprising), it's essential to address the challenges it presents. One such concern is the need for extensive infrastructure development. To fully unlock the capabilities of 5G, we require an extensive network of small cells and base stations, which demands significant investment.

## **Security Considerations: Safeguarding the Future**

With the increased connectivity 5G brings, security becomes a paramount concern. It's crucial to develop robust encryption and authentication mechanisms to protect sensitive data and prevent cyber threats.

## **The Road Ahead: Embracing the 5G Revolution**

As the evolution of 5G technology progresses, it is crucial for businesses, governments, and individuals to fully embrace its potential. This entails investing in robust infrastructure, fostering(encourage) a culture of innovation, and addressing security

concerns proactively. By taking these essential steps, a smooth and successful transition into the 5G era can be achieved, unlocking a world of new possibilities and advancements.

### **Conclusion: Unleashing the Power of 5G**

In summary, 5G technology represents more than just a mere incremental advancement; it stands as a true game-changer with the capacity to revolutionize industries and enhance our lives in countless ways. Its transformative potential holds the promise of a brighter and more connected future for all. From blazing-fast internet speeds to powering the Internet of Things and revolutionizing healthcare, 5G opens doors to a brighter and more connected future.

**Saurabh Luhar**

**206310307163**





## एक बात

मेरे लिख ने से क्या ???

तुम पढो तो कोई बात बने ।

मेरे सोच ने से क्या ???

तुम समझो तो कोई बात बने।

मै चुप हूँ तो क्या ???

तुम कुछ बोलों तो कोई बात बने ।

मेरे चाहने से क्या ???

तुम एहसास करो तो कोई बात बने ।

फूल हूँ तो क्या ???

तुम खुशबू बनो तो कोई बात बने ।

मै बैरंग हूँ तो क्या ???

तुम रंग भरो तो कोई बात बने ।

मै निराकार हूँ तो क्या ???

तुम साकार करो तो कोई बात बने ।

**Poonam Yadav**

**216310307174**





## Social Networking

Social Networking sites have become very popular in the last few years. The young ones spend a lot of time on such sites to a point, the aged people are also not away from them. There are many social networking sites. Each of them is different from the other. All of them are most popular.

Social networking sites provides a powerful platform. We can write about our interests and hobbies. These sites help us to find people with same interest and qualities. We can chat with them we can share photographs and comments.

We can find our old friends and classmates quite easily on such sites many businesses promote their business on these sites we can make groups and share our thoughts on various issues. It can help us to collect materials for speeches and debates social networking sites gives us a platform to interact with people form background. They increase our knowledge and awareness.

But we should be very careful while accessing such sites. When we are connected with the Internet, our information does not remain personal. We should not share our private data online. Anybody can hack and misuse it. Also, we should not ass any unknown person to our friends list. And we should not spend a lot of time on these sites an effect our studies.

Social networking is something that helps as to connect with people from all over the world we can communicate with our loved ones anytime anywhere in the world people can grow their business and establish relationships with networking. However, social networking is also considered harmful in many cases because access of everything always proves to be bad.

Many social networking sites like Facebook, Instagram, Twitter, WhatsApp managed to bring the world closer and helped many people to connect and expand their business globally. Social networking can be classified into blogging, broadcasting, online community and more.

The most important advantages of social networking are that it is educating people and helping children to learn different things with extraordinary experience. Students are able to discover many things on social networking sites and make their learning easier. On the other hand, many businessmen are expanding their reach to global partners and customers with social networking sites such as Facebook and Instagram. They showcase their products and services on these sites which help to get more profit and establish a large online customer base. Also, job seekers can connect with different companies and employees and thus get job easily.

There is also a disadvantages of social networking sites which includes cybercrime and money scams. Every day many people fall prey to cyber hackers and thus lose their personal data which causes great loss of dignity and wealth also. Many criminals sexually exploit children and thus become victim of pornography. Moreover, students nowadays become addicted to these social sites and thus do not concentrate on their work or studies, which ultimately leads to loss of productivity.

Therefore, we should keep an eye on our children and limit the use of social networking sites so that they can enjoy its benefits instead of suffering its bad consequences.

**Krishna Patel**

**226310307111**

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## ચલ જિંદગી

બાદલો ને હવાઈ જહાજ સે પૂછા

એ મુસાફર, તેરા મકસદ ક્યાં હૈ,

મુસાફર ને બતાયા,

લહેરાતી હુઈ હવા મેં હોંસલા રખને કી ખ્વાહિશ રખતે હૈ |

કિતાબો ને કવિ સે પૂછા

એ કવિ, તેરા મકસદ ક્યાં હૈ,

કવિ ને બતાયા,

मेरी कलम की ताकत को लोग पहचाने ऐसी ज्वाहिर रખते है।

समुंदर ने नाविक से पूछा

ऐ मुसाफिर, तेरी याह क्यां है,

मुसाफिर ने बताया,

हम तो अपनी मंजिल तक पहुँचने की ज्वाहिर रખते है।

कैची ने सुँ से पूछा

ऐ सुँ, तेरा मकसद क्यां है,

सुँ ने बताया,

तुम जो एक टुकडे को दो में बदलते हो,

वही दो टुकडो को एक में जोडने की ज्वाहिर रખते है।

जिँदगी ने चलते मुसाफिर से पूछा

ऐ मुसाफिर, तेरा मकसद क्यां है,

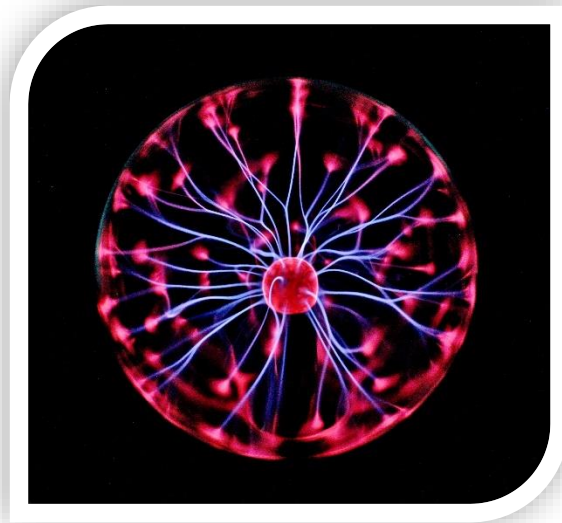
मुसाफिर ने बताया,

की जिँदगी में कुछ बी हो जाये,भुश रहने की ज्वाहिर रખते है।

**Rivanshi Darji**

**216310307191**

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## **Essay on Technology**

The word technology comes from the two Greek words, 'techne' and 'logos'. Techne means art, skill, or craft, and logos means a word, saying, or expression that expresses inward thought. Thus, technology means the skill to convey an idea to reach a goal. But now days, the term technology mainly signifies. The knowledge of tools, machine, techniques, crafts, systems, and organization method to solve a problem. Today technological advancement has provided the human race with the ability to control and adapt to their natural environment. In this essay on technology, student will know the importance on technology, its advantage and disadvantages the future of technology.

Various innovation and development took place in the field of technology which has made a significant impact on our lives in different ways with invention of technology we have the ability to transform the environment, extend our lifetime create and interconnected society and even explore various new things about the universe. Today, we use technology from morning to evening, from the simplest nail cutter to television and personal laptop. Technology has touched all aspects of our lives, whether it is mobile phones, kettles, kitchen micro waves, electric cookers, television, water heaters, remote control, fridge, and other large communication systems, air routes, and so on. Thus, technology plays extremely crucial role in the human being.

## **Advantages on Technology**

The advancement in technology has made our lives easier, more comfortable and enjoyable. It has reduced the effort and time required to complete a task, thus enhancing the quality and efficiency of work. Technology has become a part our life and benefited us in many ways. Today, we can communicate with people living in any city or country.

Communication has much faster and easier as we are just a click away from people. In education technology has plays a vital role, especially during the COVID-19 break down period. It has brought virtual and teachers across the globe to share knowledge, ideas and resources online. Moreover, technology has made it easier for student to understand complex concept with the help of virtualization, graphics, 3D animation and diagram.

Technology is considered to be the driving force behind improvements in the medical and healthcare field. Modern machine has helped doctors to perform operations successfully. Due to technology, the lifespan of increased. There are many more sectors, such as banking, automation, automobile, and various industries, where technology is making significant changes and helping us.

## **Disadvantages of Technology**

Although we have so many advantage of technology, there are also disadvantages. Robots and machines have taken over the job of many people. Instead of bringing people together, technology has made them socially isolated. People now spend most of their time on smart phones or computers reduce the intellectual and analytical ability of students. It is like spoon-feeding to student as they don't have the reasoning and aptitude skills to think differently. Technology has raised the issue of internet privacy. So, one has to be very careful while using banking passwords to make online transaction.

## **Future of Technology**

The future of technology seems to be exciting but also scary. Futuristic prediction in technology can dish out some exciting or scary vision for the future of machines and science.

Technology will either enhance or replace the products and activities that are near and dear to us. The answer to our technological dilemma about what will be the upcoming technological innovation in the future is not surprising. In the past, technology focused on retaining more information the future, it will be based on industrial robots, artificial intelligence machine learning etc.

## **Conclusion**

Technology alone cannot help in building a better world. The collateral collaboration of machines and human effort is required for the progress and prosperity of the nation. We need to develop a more robust management system for the efficient functioning of technology.

**Nikesh Patel**

**226310307122**





your personal life		
You interview for a job but you don't get it	"It's all my fault that I didn't get that job."	"I was partly responsible for not getting the job, as I know I could have prepared for the interview more. However, there were some factors that were out of my control, such as the number of people who applied and the quality of the other candidates."
You're applying for university but aren't sure whether to go	"Going to university will be too much for me to cope with."	"I've faced many challenges before, and have overcome them."

## 2. How to Overcome Self-Doubt?

Here are some good habits for you to keep in mind to stop doubting yourself:

1. Practice self-compassion
2. Think back to your past achievements.
3. Try not to compare yourself to others
4. Spend your time with supportive people
5. Remember, you are your biggest inner critic
6. Seek professional help.
7. Start journaling

## Types of self-doubts:

Self-doubt often manifests in three forms.

The first is imposter syndrome, or the illogical fear of others seeing you as a fraud or undeserving of your accomplishments.

Next is self-sabotage, which refers to undermining yourself, your values, and your goals.

The third is indecisiveness or struggling to make big and small decisions due to worries that whatever path you choose will be wrong.

### 3. How to Self-Actualize?

These tips can serve as additional guideposts along your way.

1. Practice acceptance.
2. Live spontaneously.
3. Get comfortable with your own company.
4. Appreciate the small things in life.
5. Live authentically.
6. Develop compassion.
7. Talk to a therapist.

### 4. How to Build Good Habits?



Here 7 tips for build good habits:

1. Write down your goals.
2. Avoid triggers
3. Identify the root cause of your habits.
4. Focus on making small changes.
5. Establish a daily routine.
6. Measure your progress.
7. Find an accountability partner.

## 5. How to Stay to Motivated?



1. Here are some tips:
2. Regularly review your goals and progress.
3. Continue to set new goals.

4. Keep the momentum up.
5. Find mentors, for example, someone you look up to who is experienced in the habit you want to change.
6. Surround yourself with positive people.

## 6. How to Acquire Skills for Success?



Here are some acquire skills for success:

Learn which skills are valuable.

1. Set some goals for yourself.
2. Choose the correct training.
3. Create time to work on skill.
4. Find a mentor to work with.
5. Add more responsibilities.
6. Consider skill sharing.
7. Solicit regular feedback.

**Janvi Mevada**

**216310307186**



## **Farewell: Ending but not end**

Dear Friends and Esteemed lecturers,

As I pen down these words, my heart overflows with a blend of joy, gratitude, and a tinge of sorrow. It dawns upon me that we are nearing the end of a remarkable chapter, one that has shaped us in profound ways. The friendships we've forged, the laughter and tears we've shared, and the knowledge imparted by our esteemed teachers have woven an intricate tapestry of memories that I will forever hold dear.



To my dearest friends, Utsav, Kusal, Nehal, Isha, dev, Jay, Krish, Prince, Kishan, Tirth, Avi, Om, Aayushi, Manasvee, and the countless others who have colored my days with their vibrant presence, I find it hard to express the depth of my emotions. From the first day we met, we embarked on a journey filled with curiosity, enthusiasm, and a shared ambition to conquer the world. Through the highs and lows, we have stood by each other's side, offering unwavering support, lending a listening ear, and celebrating each other's triumphs.

The late-night study sessions, fueled by coffee and determination, have etched themselves into my mind. The laughter that echoed through the hallways during breaks, the impromptu adventures we embarked on, and the playful banters that enlivened our spirits, these memories have become an integral part of my identity. As our paths diverge, I cannot help but feel a pang of sadness, knowing that things will never quite be the same. But I take solace in the fact that the bonds we've formed are resilient, capable of enduring the test of time and distance.

To my revered lecturers, whose knowledge and wisdom have illuminated my path, I owe you an immeasurable debt of gratitude. Your dedication, passion, and unwavering belief in our potential have inspired me to reach for the stars. You have nurtured not only our intellect but also our character, instilling in us the values of perseverance, integrity, and a thirst for lifelong learning. Your patience, guidance, and ability to ignite our curiosity have forever left an indelible mark on my journey.

As this chapter draws to a close, I am filled with mixed emotions. The anticipation of what lies ahead intermingles with a deep longing for the days gone by. But I remind myself that every ending signifies a new beginning. The knowledge we have acquired, the friendships we have fostered, and the memories we have woven into the very fabric of our being will forever accompany us on our future endeavors.



Dear friends and esteemed lecturers, as I bid farewell, I want you to know that you have made an indelible impact on my life. Utsav, Kusal, Nehal, Isha, Dev, Jay, Krish, Prince, Kishan, Tirth, Om, Aayushi, Manasvee, and all the other cherished individuals who have graced my journey, I am forever grateful for your presence. You have filled my life with love, laughter, and an abundance of unforgettable moments. As our paths diverge, may we carry the essence of these cherished memories and hold them close to our hearts.

To my revered lecturers, whose unwavering dedication and passion have shaped us into the individuals we are today, please know that your influence extends far beyond the

confines of the classroom. Your commitment to our growth and your belief in our potential have left an indelible mark on our souls. Your guidance will be a guiding light as we navigate the uncharted waters of the future.

As we venture forth into the uncharted territories that await us, let us carry with us the spirit of friendship, resilience, and an insatiable thirst for knowledge. May we embrace the challenges that come our way, confident in the foundation we have built together. Though our paths may diverge, I find solace in the thought that they may cross again someday, and our shared memories will rekindle the flames of camaraderie.

**Ritik Joshi**

**206310307041**



## Message by an Alumni

**“I think the success of any school can be measured by the contribution the alumni make to our national life.”**



My college days are unforgettable and in fact those days are the happiest & fruitful days in my life. I proudly feel that I cherished every moment of my college. Being a “KDPian” makes me feel proud. My experience in KDP was just amazing. I got infinite love & lessons from my teachers, there teachers made me do “Work Hard” for the way to success. I just want to thank the wonderful faculty of KDP...

Being a part of KDP, I felt blessed. The college has molded my personality and clarified my vision of the future. That day is not far when people will recognize me with the name of KDP and I am very grateful to the Institute for providing guidelines and motivation to inspire me to achieve my goals.

Attending college for the first time has been a trying but great experience for me. The way in which I have grown up, mature, and found out who really, I am is something that I couldn't accomplish without going to college. The feelings of being homesick, the loneliness of not knowing anyone, and living with someone you have never met before, are just some of the struggles of being at college for the first time.

One of the most interesting stages in life that gives you an opportunity to explore is the college phase. My experience at KDP has taught me one fundamental thing – life is unpredictable. It might be good, it might be bad, it might be weird, and it might not interest you, but expect anything to happen. It is a perfect blend of joy and hardships. You meet different people, you interact with them, you learn about their cultures and grow as a person.

At KDP I have lived the best days of my life. The experience here turned me into a more curious and achieving person. The support of the faculty members not only helped me to score good marks but also helped me to overcome the flaws for being a good human being. With the grace of God and blessings of KDP family, I have completed my Diploma study in Computer Engineering.

I would like to say that the three years at KDP were one of the best period of my life. At KDP, it always felt like a family, another home, which helped me in my academic learning. I am thankful to all the faculty members of the College for their continuous efforts and support.

My Diploma study from KDP has been a very interesting and awesome journey. Choosing KDP was one of the best decisions I have ever made. In this College, I gained friendships and experiences which added a different perspective to my life... It feels great to be taught by amazing teachers who are the best. They always motivated and encouraged me to face the risks and learn new things. I will always be thankful to KDP for making me a person I am today.

I am proud to be KDPian, this college is one of the best that provides quality education.... the faculty here is always dedicated to helping students not only in studies but also in apart from studies.... KDP has a long way to go but it's one of the best! Kilachand Devchand Polytechnic provided me with a great balance of academics and extracurricular activities. The great college life I experienced here was profoundly aided by the excellent and friendly staff. The time I have spent in this college is paving the way toward a fruitful and enriching career.

"I remember when I was entering my first year of university, I was extremely excited but at the same time extremely nervous. Reflecting back on the whole experience now, I would encourage incoming students to recognize that like anything in life, you'll face both ups and downs throughout your university experience. The important thing to remember is to always try your best and not let the instances where you may have fallen short hold you back from continuing to work hard and reach your full potential. Speaking

more specifically about KDP, it is a massively rich campus with both great people and amazing opportunities. Take these next few years to really make the most of it."

College life was the best journey of my life. It was a very precious and golden phase of my life. The entire faculty and other members of this institution are very cooperative. I got a lot of love and support from my teachers & friends and it made my 3 years memorable for me. These three years were like three days for me which completed very fast. But, during these days many memories have been created.

Sadly, we haven't seen the days of college memories because you all know Corona came and due to the nationwide epidemic, our batch is known not as the 2019 batch but as the "**Covid Batch**". And during this period, the faculty paid as much attention to us as they did offline. Our lectures, as well as practical's, assignments, mid- and unit-wise tests were conducted which were less conducted in offline mode. So, as my opinion the faculty of online education did better than KDP offline. So, don't think that offline teaching is not good but regular our teaching is offline but during Corona period there was no problem in learning (Offline mode).

The reason behind choosing online teaching is also because the college's infrastructure and facilities like water coolers which we have seen a lot but do not work properly. Classroom fans that may be better than home in terms of design but not in terms of speed. Not attending a lecture is not a solution because you can bring a solution to all these problems but present this problem with the faculty. I also know that co-curricular activities, extracurricular activities, cultural activities, workshops, industrial visits, farewell, seminar on career counselling all this is not organized by the organization which is not a good thing for college. but I hope after seeing this message of mine the facilities will be improved as soon as possible. My juniors don't get a chance to tell anyone else that KDP is not a good college.

If you want to learn something you should not think that there is any inconvenience and we can bring that inconvenience together and turn it into convenience. My Belief is "First Believe in yourself and then Believe in the institution". Friends, always welcome

difficulties and challenges in your life. These make us stronger, better and gives us an opportunity to get the best inside us.

My juniors I advise you to,

Do Justice with your time when it's time to enjoy college life, live it to the fullest but when it comes to your study, devote your 100% to it.

You have to choose first horse among the: Skill, Luck and Mercy in the race of your professional life because only first one will be with you forever, but to ride this, you must acquire the ability with hard work and passion. This is the right time for you. This is an opportunity for you to learn not just about the world around you but to learn about who you are and what you want to do in life.

**“Wishing the incoming KDP students every success in the future. Be the best student you can be; it is more rewarding than you think!”**

**Palak Dhobi**

**196310307017**



## Industry Visit

On February 8, 2023, K.D Polytechnic's Computer Engineering Department in PATAN arranged an industrial visit to Banas Dairy, Palanpur, attracting the active participation of 50 final year students. Banas Dairy's tour guide conducted a comprehensive tour, offering detailed guidance on the dairy's operations and automation processes. Students had the opportunity to witness the networking infrastructure, surveillance



systems, and ERP (SAP) implementation in action, gaining valuable insights into their industrial applications. The feedback from students following the visit was overwhelmingly positive, underlining the educational value and relevance of the experience. This visit effectively bridged the gap between theoretical knowledge and practical industry applications, preparing our students for successful careers in computer engineering.

## Poster Presentation

On May 12, 2023, K.D. Polytechnic, Patan's Department of Computer Engineering organized a Project Poster Presentation Competition. This event aimed to showcase students' project poster-making skills and their ability to present their projects effectively.



Principal Shri R. M. Shaikh inaugurated the event, highlighting the importance of final year project posters in real-world applications,

particularly in Software Engineering, Web Development, and IOT. The Head of Department and the jury members provided valuable feedback, while students confidently defended their posters. A total of 31 project groups involving 115 students participated, showcasing their hard work and creativity. Top-ranking projects included "Music Streaming App" (1st), "Blood+" (2nd), and a tie between "Hostel Management System" and "Online Birth Certificate System" (3rd), determined by the jury's evaluation. The event's success demonstrated its value in presenting project work and gaining insightful feedback. It was supervised by Shree C. D. Patel, coordinated by P. J. Joshi, and judged by experienced staff members.

## Workshop Participation

On April 15, 2023, the Computer Engineering Department at K.D. Polytechnic,



PATAN organized a workshop on Emerging Trends at GPERI, Mevad, Mehsana, specifically for final year computer engineering students. The visit was expertly coordinated by Mr. Chirag D. Patel and Mr. Mayur R. Thakkar, with active participation from 45 students in the 6th semester.

During the one-day workshop at GPERI Mevad, industry experts provided valuable insights into emerging trends in the field. Students had the opportunity to enhance their knowledge and understanding of these trends. The feedback from the students regarding the workshop was highly satisfactory, indicating its effectiveness in enriching their understanding of industry developments.

Furthermore, on April 29, 2023, the Department of Computer and IT Engineering at Sankalchand Patel College of Engineering, Visnagar, organized a one-day seminar on "Emerging Trends and Technologies." The seminar aimed to educate participants about cutting-edge technologies. Mr. Rajesh Vishnani, Project Manager, and Mr. Gunja Shah, Manager, Human Resources Business Partner at Regal Network Pvt. Ltd. Vadodara, shed light on the significance of "Block chain Technologies and Problem Solving Techniques"

in contemporary industries. Additionally, various emerging technologies, such as robotics, supercomputers, drones, and Apple Lab, were demonstrated by departmental professors in the laboratory. More than 70 students and professors from different Diploma/Degree Colleges actively participated in this informative program.

## Expert Lecture

On March 6th, 2023, from 10:30 am to 12:00 pm, in Venue N0, an expert lecture on Amazon Web Services (AWS) was conducted, featuring Mr. Ankur Pancholi and Mr. L. K. Patel. The primary goal of this lecture was to provide a comprehensive understanding of AWS, its services, and its advantages for both businesses and individuals.

The event commenced with a brief introduction by the organizer, underscoring the significance of AWS in today's technological landscape. An experienced AWS



professional, Mr. Ankur Pancholi, then took the stage and delivered an informative and enlightening lecture to the 94 students in attendance. The

lecture successfully introduced the students to the world of AWS, offering a comprehensive overview of its services, benefits, and real-world applications. This event inspired the students to explore the vast opportunities in cloud computing and AWS, equipping them with valuable knowledge for personal projects, business endeavors, and future careers.

Similarly, on March 7th, 2023, from 10:30 am to 12:00 pm, at Venue N0, another engaging and informative expert lecture on cybersecurity was conducted. The lecture featured Mr. Nachiket Joshi, an expert and cyber volunteer for the Patan Police. This lecture aimed to enhance students' knowledge and awareness of cyber threats, data breaches, and strategies to protect themselves and their organizations from potential cyberattacks.

With an attendance of 86 students, the lecture provided valuable insights into the realm of cybersecurity. It raised awareness about cybersecurity issues, equipped students

with practical knowledge and best practices, and inspired them to consider careers in this rapidly growing field. The event was a resounding success, leaving a lasting impact on attendees' understanding of cybersecurity and their ability to safeguard themselves in an increasingly digital world

## NSS Activities Participation

Our department has been actively participating in a series of National Service Scheme (NSS) activities that have played a significant role in fostering a sense of social responsibility and community engagement among our students.

One notable event was the Expert Lecture on Women Empowerment held on January 5th, 2023. This lecture brought attention to the critical issue of women's empowerment in today's society and emphasized the importance of gender equality, equal opportunities, and the active participation of women in various aspects of life.

On January 12th, 2023, our department joined in the National Youth Day Celebration, commemorating the birth anniversary of Swami Vivekananda. This event served as a platform to inspire our students to be the change-makers of tomorrow.

Additionally, we organized a Drawing Competition on Women Empowerment on March 7th, 2023, encouraging students to express their thoughts on gender equality and women's rights through art.



On March 20th, 2023, we celebrated World Sparrow Day, raising awareness about the conservation of these small yet vital birds and their significance in our ecosystem.

Furthermore, a Seminar on the Indian Constitution was held on April 27th, 2023, providing students with insights into the fundamental principles of our democracy and the importance of upholding constitutional values.

Lastly, we organized an Essay Competition on the History of Gujarat on June 7th, 2023, encouraging students to delve into the rich cultural and historical heritage of our state.

These NSS activities have not only enriched the lives of our students but have also contributed to their personal and social development, instilling in them a strong sense of civic duty and awareness of crucial societal issues.

## **Gymkhana Activities Participation**

The Gymkhana Cell at our institution has been instrumental in organizing a diverse range of activities that have not only enriched the student experience but have also contributed to their personal and social development.

One of the noteworthy events was the "Consumer Awareness and Cyber Security" webinar conducted by the Telecom Regulatory Authority of India on January 10, 2023. Students and faculty actively participated in this online event, gaining valuable insights into cybersecurity and consumer awareness.

Another significant event was the celebration of "National Yuva Day" on January 12, 2023, which aimed to inspire and motivate our students. The online webinar received active participation from the Computer Department, leaving students motivated and inspired.

A "Debate" on Vasudhaiva Kutumbakam was organized on January 19, 2023, encouraging students to engage in meaningful discussions and gain exposure to diverse perspectives.

The "Republic Day Celebration" on January 26, 2023, involved a flag hoisting ceremony, promoting a sense of patriotism and unity among students and faculty.

On February 23, 2023, the "Environment and Climate Sustainability Quiz Competition" showcased students' knowledge and quick thinking skills, reinforcing the importance of environmental awareness.

"Essay Writing on G20/Y20" on February 8, 2023, and the "Y20 Seminar" on the same day inspired students and provided them with valuable insights into global issues.



"Essay Writing on Anti-Corruption" on March 10, 2023, encouraged students to reflect on the importance of ethical values and anti-corruption efforts.

The "Webinar on Women Development Online" on March 14, 2023, empowered female students with knowledge and motivation, emphasizing the significance of women's development.

A seminar on "Vyasan Mukti Lokjagruti" on March 27, 2023, raised awareness about addiction issues and cybercrime, equipping students with crucial information.

The "Sports Week" from April 5 to April 11, 2023, promoted physical fitness and healthy competition among students, fostering teamwork and sportsmanship.

The "Day Celebration Week" during the same period showcased cultural and traditional activities, enhancing the sense of unity and pride among students.

A "Thalassemia Test" on April 25, 2023, highlighted the importance of health awareness, with students participating in this critical screening.

The "Hinsa Mukti Seminar" on May 5, 2023, raised awareness about non-violence and its significance in society.

Finally, "Yoga Day" on June 21, 2023, emphasized the benefits of yoga for physical and mental well-being, with students and faculty actively participating in yoga sessions.

These activities, organized by the Gymkhana Cell, have not only enriched the lives of our students but have also contributed to their holistic development, instilling in them a sense of responsibility, awareness, and unity within the institution and society at large.

## **SSIP and Placement Cell Activities**

The SSIP and TPO cell activities in 2023 were diverse and impactful. On March 16th, the Government of Gujarat's KCG organized a Job Fair that saw enthusiastic participation from students across various departments. Notably, 41 students from the Computer Engineering Department exhibited their skills, leading to three of them securing positions with esteemed employers. This event provided an invaluable platform for students to showcase their talents and establish connections with prospective employers, enhancing their career prospects.

Furthermore, on January 31st, the Placement Cell at KDP Patan organized the "IBM Skills Build Job Readiness Workshop." This workshop, attended by 242 computer engineering students, offered free online skill-based training to enhance job readiness. Participants gained crucial insights into essential skills required for desirable employment through engaging masterclasses and self-paced learning activities.

In addition, on May 2nd, Hytech Education Patan conducted an expert session on "Overseas Education and Career Progression". Mr. Ankur Pancholi, Branch Head, Hytech Education Patan conducted this session. This session provided valuable insights into pursuing higher education abroad and the resulting career progression prospects, benefiting 47 computer engineering students.

Moreover, on May 6th, Mr. Brijesh Patel, a Senior Angular .Net Developer from Macersoft Technologies, Vadodara, conducted an expert session on "One-page Web Application Development." This event drew the participation of 97 students, who benefited from Mr. Patel's extensive experience in the field, gaining valuable insights and practical knowledge in web application development.

Finally, the grand finale of the AzadikaAmritMahotsav Hackathon 2023, jointly organized by SSIP and GKS, took place on February 10th and 11th at Veer Narmad South Gujarat University, Surat. A team of six students participated enthusiastically, presenting their innovative project, the "Online Birth and Death Registration System," which addressed critical societal needs. These activities collectively contributed to enhancing students' skills, knowledge, and career prospects.

## Student Achievements

### ESSAY COMPETITION ON HISTORY OF GUJARAT

#### WINNER LIST

SR NO	ENROLLMENT NO	NAME	RANK
1	226310307034	KHAMAR ASTHA MAYURBHAI	1
2	226310307175	PUROHIT DARSHANA JAYANTIBHAI	2
3	226310307014	CHUDASAMA KALPIT DINESHBHAI	3

### QUIZ COMPETITION ON HISTORY ENVIRONMENT AND CLIMATE

#### SUSTAINABILITY

#### WINNER LIST

SR NO	ENROLLMENT NO	NAME
1	226310307228	TRIVEDI MESHVA PARESHBHAI
2	226310307055	MODI PARI SANJAYKUMAR

### COMPUTER DEPARTMENT GIRLS GOT 2ND RANK IN KHO-KHO MATCH, SPORTS WEEK 2023 HELD AT K.D.POLYTECHNIC,PATAN

#### WINNER LIST

Sr. No	ENROLLMENT NO	NAME
1	216310307029	PATEL SHRIYA J.
2	216310307188	JANI RIYA H.
3	216310307147	CHAUHAN TISHA H.
4	216310307050	PRAJAPATI HELI M.
5	216310307063	SONI HONEY H.
6	206310307107	PATEL AARGEE R.
7	216310307174	YADAV POONAM R.
8	216310307054	BODAT BHAGYESVARI S.

**Computer Department students got 1st Rank in Poster Presentation in International  
Techfest - at Swami Sachchidanand Polytechnic College -Visnagar**

**WINNER LIST**

<b>SR NO</b>	<b>ENROLLMENT NO</b>	<b>NAME</b>
1	206310307115	VANKAR KAJAL
2	216310307040	THAKKAR MEGHA



## Shinning Stars

<b>DIPLOMA SEMESTER 1</b>			
<b>Sr. No.</b>	<b>Enrollment No.</b>	<b>Name</b>	<b>SPI</b>
1	226310307027	HET HITESHKUMAR THAKKAR	9.57
2	226310307055	MODI PARI SANJAYKUMAR	9.19
3	226310307058	MODI SUMIT NITINKUMAR	9
<b>DIPLOMA SEMESTER 3</b>			
<b>Sr. No.</b>	<b>Enrollment No.</b>	<b>Name</b>	<b>SPI</b>
1	216310307105	RAVAL SHITTALBEN JAYESHBHAI	9.9
2	216310307026	PRAJAPATI SHAILESH MAHADEVVBHAI	9.43
3	216310307072	GOTHI NAMAN DEVDATTBHAI	9.33
<b>DIPLOMA SEMESTER 5</b>			
<b>Sr. No.</b>	<b>Enrollment No.</b>	<b>Name</b>	<b>SPI</b>
1	206310307095	VYAS VISHVA PRAFULCHANDRA	10
2	206310307093	DARJI JAY VINODKUMAR	9.7
3	206310307089	DARJI PRINCE KANUBHAI	9.67

## Artist Corner

In the Artist Corner, we are delighted to showcase the remarkable work of Vrushabh Sathwara, a talented artist whose creative abilities shine through in a beautiful sketch dedicated to Lord Ganesha. This sketch is a testament to Vrushabh's artistic prowess and his deep reverence for Lord Ganesha, a widely adored deity in Hinduism known as the remover of obstacles and the harbinger of good fortune.



## Student Contributors

<b>Sr. No.</b>	<b>Name</b>
1	Vijay Solanki
2	Nistha Dave
3	Nikita Thakor
4	Manav Patel
5	Palak Dhobi
6	Ritik Joshi
7	Saurabh Luhar
8	Poonam Yadav
9	Krishna Patel
10	Rivanshi Darji
11	Nikesh Patel
12	Janvi Mevada

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<b>No.</b>	<b>Name</b>	<b>Enrollment No</b>	<b>Sem</b>
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