VOLUME 1

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PRINCIPAL'S MESSAGE

Greetings to all readers,

It gives me immense pleasure to share my thoughts on the 1st edition of our school IT magazine, which focuses on the growing influence of Artificial Intelligence (AI) tools in the field of education. This magazine is not only a reflection of creativity and learning but also a valuable source of knowledge that highlights how technology is reshaping classrooms today.

At the same time, our school has been greatly enriched by advanced IT facilities such as smart boards, iMacs, and digital learning resources. These tools have transformed classrooms into interactive spaces, fostering creativity, collaboration, and innovation. They have empowered teachers to make lessons more engaging and have given students the opportunity to explore knowledge with greater depth and clarity. Truly, they have strengthened our entire school fraternity and prepared us for a future where technology and learning go hand in hand.

As we move forward, let us remember that technology as a tool is most effective when combined with the guidance, empathy, and values that educators bring. I hope this issue will encourage both teachers and students to explore AI responsibly and use it as a stepping stone toward lifelong learning. All the best to rich mingling of technology to enhance human efficiency.

Ajay Singh
Principal:The Scindia School

VICE PRINCIPAL'S MESSAGE

Dear readers,

It brings me great joy and pride to present to you the inaugural edition of Tech Vault-our school's very first magazine dedicated to the exciting world of Information Technology. This platform stands as a celebration of the innovation, creativity, and digital curiosity that defines our young tech enthusiasts and the faculty who guide and inspire them.

I am deeply encouraged by the range of articles, projects, and reflections shared in this edition. They represent not only technical knowledge but also the critical thinking and problem-solving mindset that we strive to nurture at our school. It is heartening to see our students exploring topics such as artificial intelligence, cybersecurity, coding, and digital ethics with such passion and insight.

To our readers, I encourage you to dive into these pages with an open and inquisitive mind. Engage with the ideas, explore new perspectives, and allow this edition to spark your interest in the ever-evolving world of technology.

As we launch Tech Vault, I firmly believe that this magazine marks the beginning of a journey, a journey where our students emerge not only as consumers of technology but as its future creators and innovators. The possibilities ahead are limitless, and I look forward to seeing how our learners continue to shape the digital world of tomorrow.

Smita Chaturvedi
Vice Principal:The Scindia School

STAFF EDITOR'S MESSAGE

Dear readers,

It is my pleasure to deliver the first edition of TechVault, the school's first technology magazine. With great pride, I acted as Staff Editor to present this milestone publication that is the result of labour of love, research, and collaboration from our dedicated editorial team.Technology has become an integral part of our daily lives. TechVault is designed to familiarize the whole school community with the latest technologies, which are usually difficult to understand.

Just imagine the scene when you are reading the magazine: the whole school is buzzing with discussions about AI, robots, and cutting-edge technology. What a beautiful thing it is!

We thank the faculty and the school administration from the bottom of our hearts for this leap of faith. We invite you to share your thoughts, stories, and experiences with us, which will be the source of light for TechVault's future, so why not become part of our community of young technologists?

Raj Kumar Kapoor
Dean of ICT

EDITORIAL NOTE

Dear Readers,

It gives us immense joy to present to you the very first edition of Tech Vault, the official IT magazine of The Scindia School, Gwalior. This magazine is more than just pages filled with articles and graphics; it is the voice of a new generation of learners who are curious, creative, and ready to shape the digital tomorrow.

Our chosen theme for this debut edition is:

“Working with AI Models and Tools in the Education Industry.”

Artificial Intelligence is no longer a distant idea from science fiction novels ,it is here, in our classrooms, in our apps, and even in our daily homework routines. From AI tutors that adapt to a student’s learning style, to tools that make coding, design, and even scientific research easier, AI is redefining the way education is delivered and experienced.

In this magazine, you will find articles, DIY tutorials, and thought-provoking insights into the world of AI in education. We’ve tried to make it interactive, relatable, and inspiring, because technology is not just about machines, it’s about what we can do with them.

We believe Tech Vault will not only inform you but also spark curiosity, debate, and innovation. As student editors, our hope is that every reader, whether tech enthusiast, creative thinker, or future innovatorfinds something in these pages that fuels their imagination.

So open this vault, dive in, and discover how AI is shaping the classrooms of today and the future of tomorrow.

The Student Editorial Team

Tech Vault – The Scindia School, Gwalior

TechVault Editorial Board 2025

FEATURED ARTICLES:

INSPIRING AND CREATING WITH AI

Today, Artificial Intelligence is not just used for the intention of solving equations or automating office work. It is now a great inspiration and creativity source within schools. Through the confluence of human imagination and machine intelligence, AI brings new possibilities of learning, of creation, and of expression of ideas.
AI can be an imaginative co-creator for students. Content-creation software or apps allow students to attempt their imagination free of traditional constraints. When a student is struggling at drawing, they can access AI art sites and animate their story characters. When a student is interested in music, they can compose new songs with AI software and no formal training. Creativity is not supplanted by these products and tools; it is quite often elicited and made possible—and it enables students to try new forms of portraying their ideas.

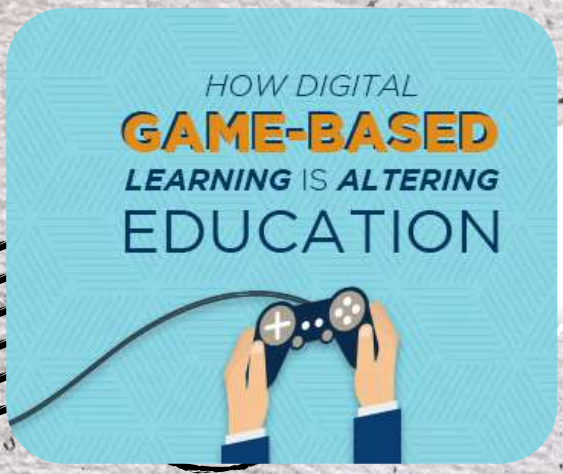
Teachers are motivated by AI too. More innovative teaching plans are feasible with individualized examples, quizzes with interactive elements or visual data prepared by AI. Teachers can dedicate their time to designing more interactive and richer teaching experiences rather than spending their hours on preparation of conventional teaching materials. AI itself works toward the development of inclusive content so that innovation within classrooms permeates children of diverse abilities.

The most thrilling feature of AI in teaching is democratizing creativity. Access to sophisticated tools previously only available to professionals is now possible with a smartphone or computer. This equalizes the field and frees young minds from fear of failure when it comes to exploring writing, art, designing, or programming. In a word, AI isn't killing human creativity - it elevates it. By providing students and teachers with new ways of visualizing and inventing, AI is more than a trend in technology; it is a gateway to tomorrow when learning is both intelligent and inventive.

-Divyansh Parecha
11-D

GAMIFYING EDUCATION WITH AI

Learning is most effective when students are actively engaged in the learning process. Gamification— turning lessons into games—has become one of the most exciting trends in education. With the rise of artificial intelligence (AI), gamification has become even more creative and engaging. AI-based gamified learning systems include challenges, rewards, and narratives to fit the pace and abilities of every student. For instance, a math game based on AI can observe a student having difficulties with fractions and automatically generate easier puzzles to help regain confidence before progressing to more challenging ones. This renders learning enjoyable and efficient without causing frustration while sustaining curiosity. This approach has made subjects like history, coding, and even language learning more engaging.



In AI-based coding games, every correct line of code helps a character move ahead in a mission. In history, instead of memorizing boring dates and facts, AI can create immersive simulations that let students actually experience past events Educators are also benefitted by AI gamification. The programs create progress reports, identify areas of weakness and strengths, and even offer customized learning pathways for individual students.

Rather than spend hours creating worksheets, educators can concentrate on mentoring and encouraging learners. In the future, gamified AI could turn classrooms into fun playgrounds, where solving a science puzzle feels like finding treasure and writing an essay feels like shaping an imaginary world. By blending play with purpose, AI is not only changing how students learn but also making learning truly enjoyable.

-Kartik Agarwal
11-A

SIMPHY: A MAN MADE UNIVERSE

" If you don't find Physics interesting , Your Teacher is a criminal." - Walter Lewin

Well, There exists a Teacher who used technology to take the interest of his students to the next level. Mr. Mahesh kurmi, Founder of Simphy Softwares Pvt. Ltd. , engineer, author, mentor of thousands of students and most importantly a teacher hand coded each fragment of this wonderful software to create what we know as SIMPHY.

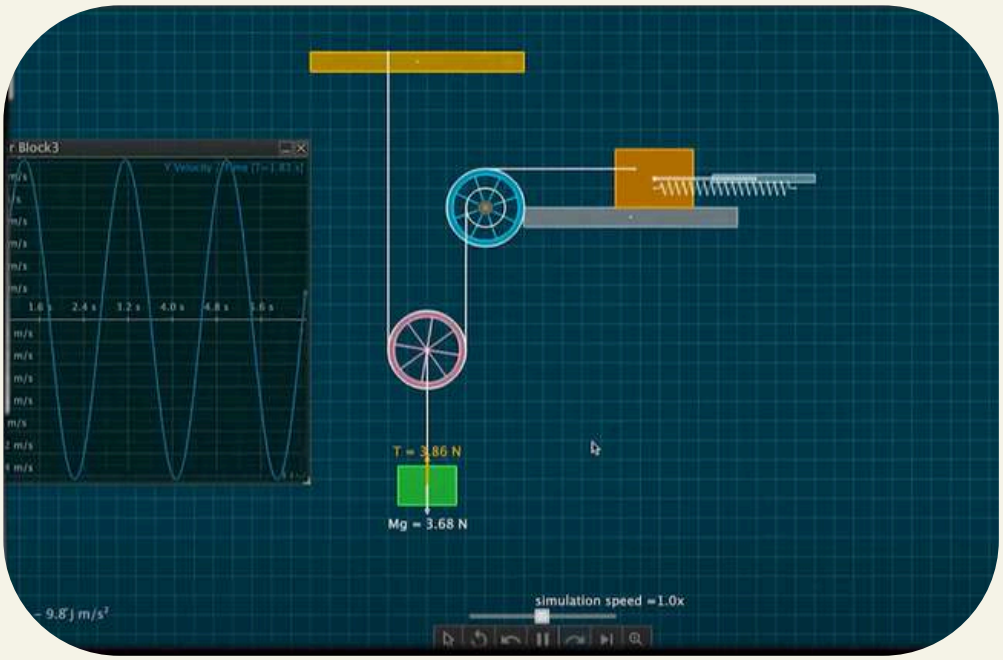
The Spark Behind SimPHY

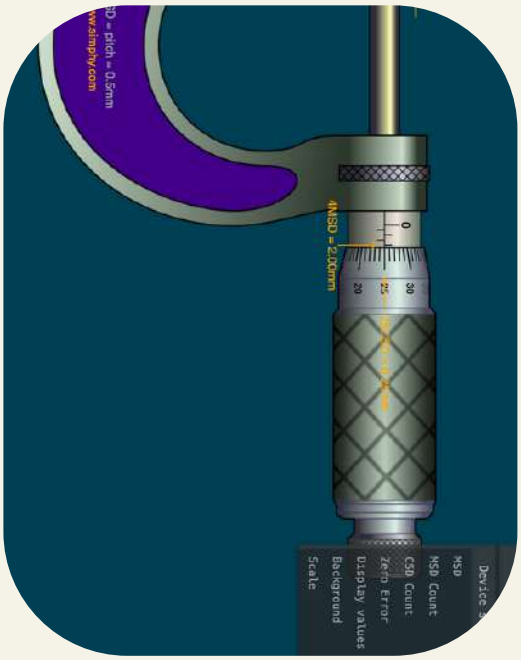
Physics is often called the “science of reality,” yet for many students, it feels abstract —locked inside equations and free body diagrams. Mr. kurmi, a mathematics and physics professor from Gwalior, faced this challenge in his classrooms. Traditional chalk-and-talk methods, though rigorous, left many learners struggling to visualise forces, motion, and fields. Lab experiments helped, but they were limited, expensive, and sometimes impractical.

To bridge this gap, Mr. Kurmi built SimPHY—a virtual lab where physics comes alive. What started as a teaching tool soon became a powerful educational platform, launched formally in 2018 under Simphy Softwares Pvt. Ltd.

How SimPHY Works

At its core, SimPHY is a simulation engine powered by AI and advanced matrix algorithms. These allow the software to replicate real-world physics with remarkable accuracy. SimPHY is not just a software, but a lab of creativity, you can create systems as complex as you want using elements like Pulleys, Levers, Ropes, Springs etc for Mechanics and dynamics, Resistors , Capacitors, Rheostats , bulbs , wires, batteries etc for electrostatics, Magnets , magnetic flux density for various objects for Magnetism , Lenses and mirrors of your choice and size for Optics and what not! and the best part is , as you run play the stimulation starts and shows you the exact thing that would have happened in the ideal case if those experiments would have been done manually. One can also, know the exact properties like velocities, positions, charge, Energy , temperature etc in real time during the experiments and also have real time graphs being built by AI to depict the variation in those properties.





Adding to its versatility, SimPHY offers hundreds of extensions. These plug-in-like tools enable the creation of increasingly complex scenarios—ranging from simple inclined planes to systems of charged particles in combined magnetic and electric fields. Teachers can customise lessons, while advanced learners can build entire research-grade simulations.

This is the reason why many foreign universities have accepted it as a primary tool to teach sciences. SimPHY has proven its potential that how using technology appropriately, something can go to the world from the mere dusty computer rooms of Gwalior.

The Bigger Picture

SimPHY is more than software—it's an educational revolution. It shifts classrooms from static explanations to dynamic, visual exploration. For teachers, it's a bridge between chalkboard rigor and hands-on labs. For students, it transforms physics and chemistry from intimidating equations and diagrams into a playground of discovery.

Under Mr. kurmi's leadership, SimPHY has matured to subjects like chemistry as well. By blending AI, powerful algorithms, and creative teaching, it proves that Technology can be really used to enhance the education and minds of students.

-Bhavya Jain
12-A

MAPPING YOUR WAY TO SUCCESS WITH TECHNOLOGY

Have you ever thought that you remember the scenes of movies better than the dates of history? The answer is simple: your brain loves pictures!

At the present time, we are living in a world of screens, apps, and infinite data. The secret, however, is this one: the brain can process the visual information 60,000 times faster than the text of the same information. This is like the comparison between a sports car and a bicycle!

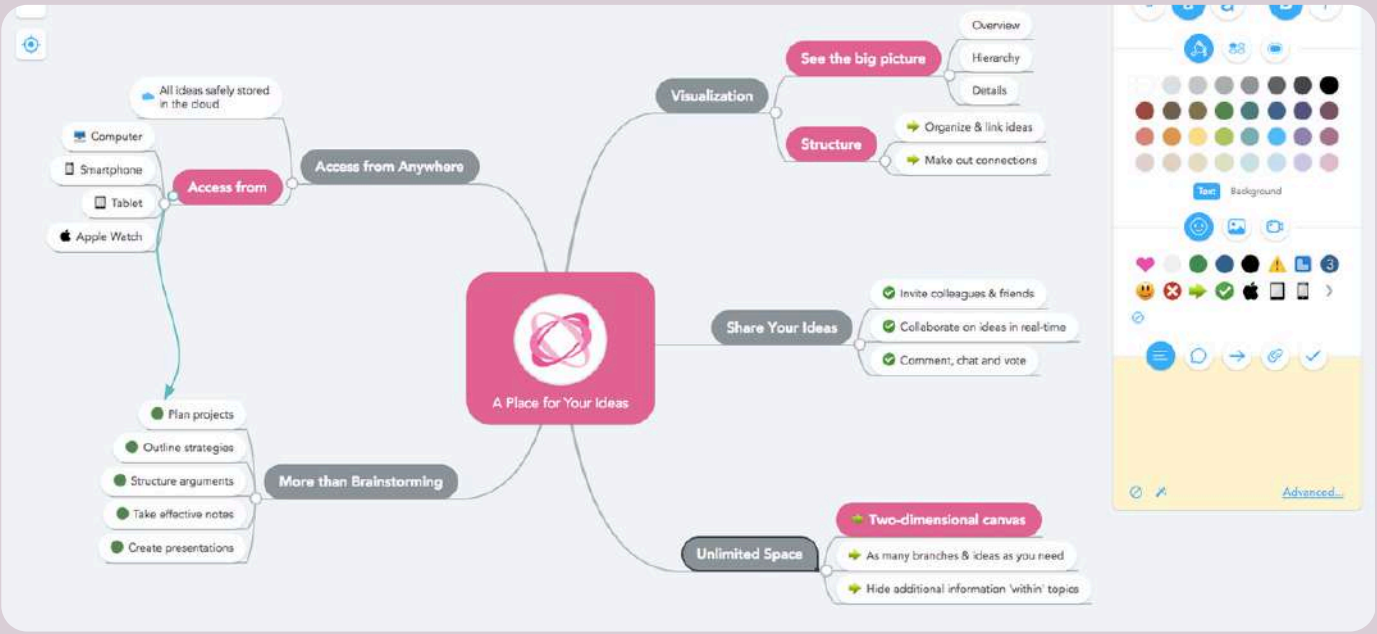
The fact that you get the joke pronounced in a meme at once is a good example of why visual learning is effective. When your teacher paints a diagram on the board, that confusing math problem can suddenly be understood. Our brains are designed in such a way that they prefer to communicate through pictures rather than text.

Visuals also help the learner to understand complex subjects in a very simple way as through visuals the learner can see how the ideas presented to him/her connect. Instead of just rote-memorizing boring lists, one can see how concepts are related to each other and thus studying becomes less painful and more entertaining.

Mind Mapping Apps:

Like Mind Meister or some drawing apps can convert your disordered notes into vivid, intuitive, and connected ideas. Prepare a mind map for your next history chapter and you will find that how much you can recall from it in front of a surprise!

Video Learning: One cannot equate the usage of YouTube for a merely entertainment purpose and the very same platform is the place where we find all the scientific and academic explanations come true as through the videos and animations by the channels like the Khan Academy.



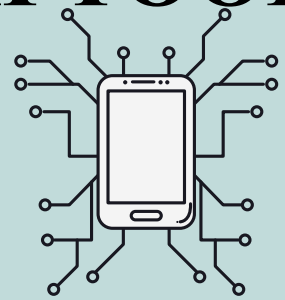
Infographic Creators: With the help of the likes of Canva and Piktochart is it possible to turn the most boring written project reports into the most attention-grabbing infographics. Instead of sinking under the weight of the written account, your classmates will thank you for making it readable!

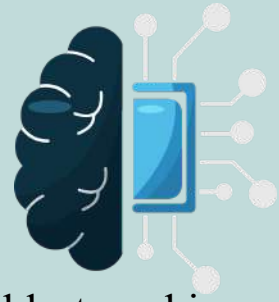
Next time when you are going to study, apply the 5-minute rule that means you should spend five minutes of your study time on creating a simple visual of what you just read. You will find even the most insignificant addition to your notes in the form of symbols or small drawings can revolutionize your memory.

The world of tomorrow is for those who see in images.
From Instagram stories to creative presentations, we are already in a visual era. So why not use this major advantage to win in your studies?

Keep in mind: every accomplished person was once a student who discovered his/her effective learning style. Perhaps, the learning style you have is one picture away from being found.

TOP AI TOOLS FOR STUDENTS IN 2025





GITHUB

“It would appear that we have reached the limits of what it is possible to achieve with computer technology” — John von Neumann, 1949

This quote by John von Neumann contradicts the very idea or a possibility of advanced technological advancement being possible. Well! It seems like he has definitely been proved wrong.

Out of all the AI tools available for students and learners, one tool that has always stood out not only because of its target audience but also because of its unique features and guidances it provides has been GitHub.

For those of you who are unfamiliar with GitHub, here is a brief explanation for you. GitHub is basically a cloud-based platform for software developers to store, manage, and share their code using the Git version control system. Now you may ask, “What is a Git ?”. Git is a distributed version control system (DVCS) that tracks changes in source code throughout the software development procaess. It enables multiple developers to collaborate on a project without overwriting each other's work. Think of Git like a Google Docs for code, but way more powerful:

- Every developer has their own copy of the whole project (not just one file on a server).
- Git keeps track of who changed what and when.
- If mistakes happen, you can roll back to an older version.
- Multiple people can work at the same time without messing up each other’s changes.

GitHub provides a centralized, web-based environment to host Git repositories, which are folders for code and files, allowing for seamless collaboration through features like code review, issue tracking, and project management tools.

What is GitHub AI?

GitHub AI refers to tools and features (like GitHub Copilot) that use artificial intelligence to help developers write, review, and manage code.

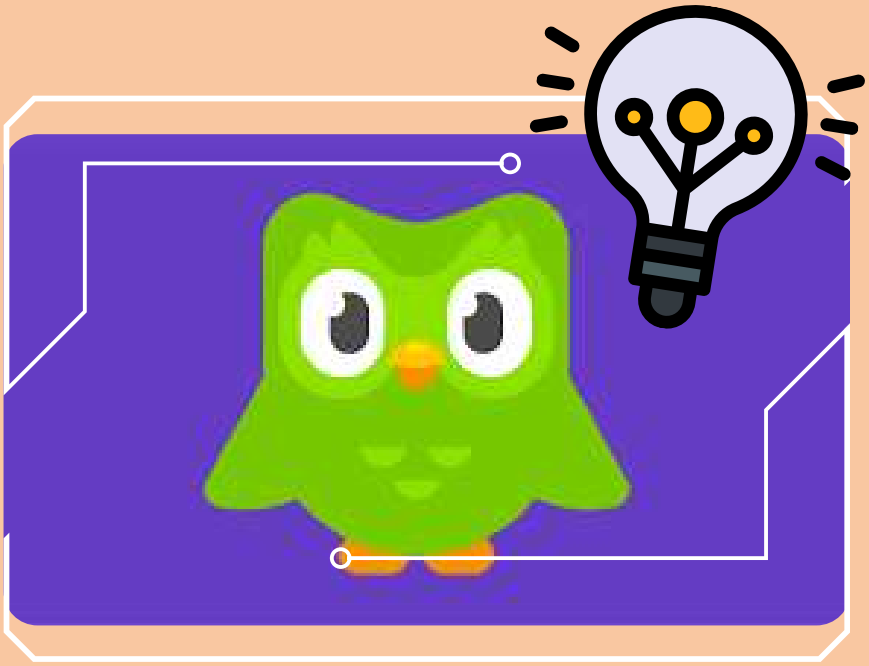
- It's like having a coding assistant built right into your editor.
- Instead of only storing code (like normal GitHub), it can suggest whole lines or functions as you type.
- It can also help with bug fixes, documentation, and learning new frameworks.

GitHub is a tool that is being used by every programmer nowadays, whether he/she is experienced or just a rookie. Big tech giants like Microsoft, Apple, and Google use it to manage their code. Linux, Python, TensorFlow, and millions of libraries are hosted here, shaping the backbone of modern technology. It is where cutting-edge AI models, datasets, and research papers are shared, accelerating innovation. Animators, game developers, and video studios use GitHub to manage creative projects, plugins, and automation scripts. Apart from this, it is being used in so many other industries.

Not only in this, but it is also used by millions of students, learners, and teachers too. It is not limited to advanced task and can help in other minimal tasks like learn programming, version control, and collaboration, which are essential modern job skills.

To conclude, I would like to say that " GitHub has grown beyond coding and managing code, it's now a global workspace for students, industries, and innovators, enabling teamwork, learning, and knowledge sharing".

DUOLINGO



It is a freemium language-learning app and website through which anyone with an internet connection can learn a new language. Duolingo is popular for its gamified approach and offers over 100 courses in 40+ languages through short, interactive lessons.

For students who have just opted for their third language, it can help build a solid foundation of vocabulary and basic grammar through its effective and gamified approach. It is very helpful to students who are not confident about their basic language foundation.

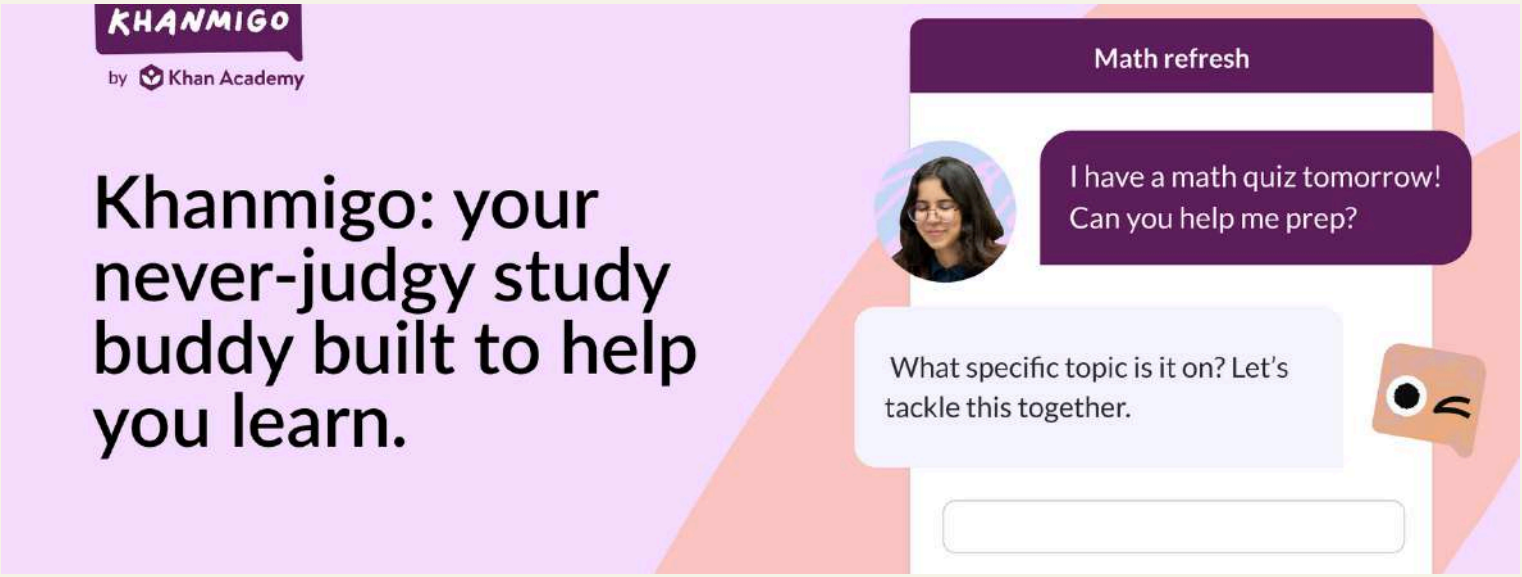
Duolingo turns learning into a game with features like daily streaks, leaderboards, virtual currency, and reward chests. This adds a fun and competitive element, which helps students develop interest in learning the language. Therefore, every student is motivated to practice consistently, helping them to develop a strong language foundation.

Its flexibility and short lessons can make it easy for you to learn even if you have a busy schedule, making it perfect for students in Scindia School. Its various features include matching, translation, and speaking prompts, which focus on interactive exercises rather than rote memorization.

For paying subscribers, it also has the AI-powered feature Duolingo Max, which offers advanced features like "Explain My Answer" where you can get insights and tips to clear up confusion, and "Roleplay" which allows learners to practice real-world conversational skills with the app's AI characters in various scenarios.

KHANMIGO

Khanmigo was developed by Khan Academy along with OpenAI. It is an AI-based learning tool that is meant to enhance the learning process for students of any age. Its mission is to tackle the most common educational challenges by providing personalized, accessible, and interactive learning support to each student's specific requirements.



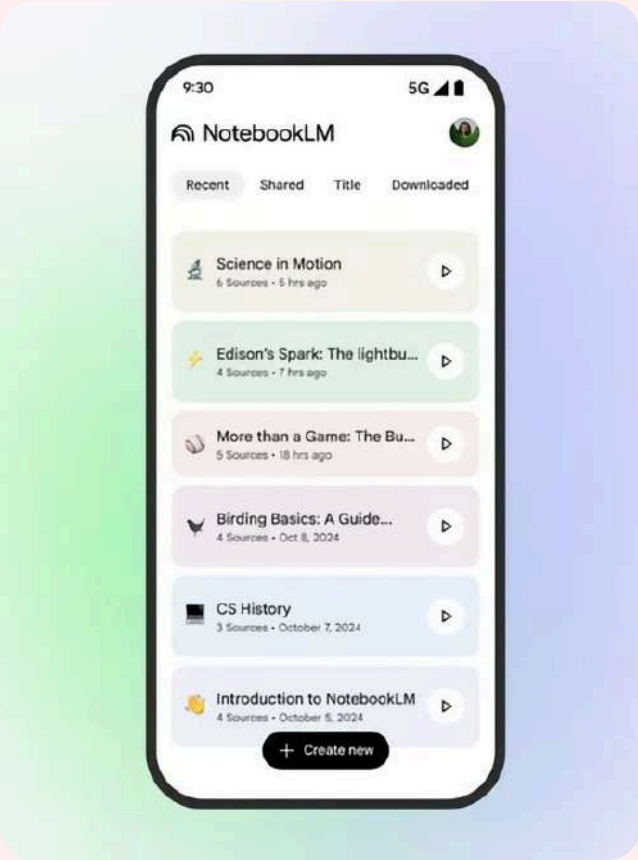
As opposed to conventional study habits, Khanmigo adjusts its support to the individual pace, style, and requirements of each learner. Beyond being a virtual assistant, Khanmigo assists learners in overcoming challenging problems, breaking down solutions step by step and presenting alternative means of comprehending complicated concepts.

he tool adapts its instruction to fit the individual student's progress and requirements. If a student is struggling with a particular idea, Khanmigo may explain it in different ways, employ visual aids, or give practice exercises that are appropriate for their current level of comprehension.

Khanmigo transforms the learning process by offering interactive discussions. This gives lessons the sense that they are a conversation rather than a lecture. This builds greater interaction with the subject.

Whether algebra, history, or test prep, Khanmigo offers assistance in numerous subjects. This versatility makes it an effective tool for students working in multiple areas, allowing them to toggle between topics as necessary.

NOTEBOOK LM



Notebook LM is an artificial intelligence-based research assistant that focuses solely on your personal documents and materials. With AI chatbots commonly, they may offer information found on the web, which might be false. Conversely, Notebook LM only uses the uploads of the sources you have—textbooks, lecture notes, research papers, and class materials. Every answer is accompanied by citations from your trusted academic sources. Upload up to 50 sources chunky PDF textbooks, class notes, website links, YouTube lecture transcripts, even recordings of your professor's monotonous lectures.

The AI gobbles up to 25 million words way faster than you can say "procrastination."Instant Study Superpowers: Notebook LM doesn't hesitate in making study guides, flashcards, practice quizzes, timelines, and FAQs do. Instead of 3 AM cram sessions where caffine and tears are the fuel, students can upload course materials and instantly receive comprehensive study guides.Research Projects That Don't Suck: Upload research sources and watch as Notebook LM finds the connections, makes the outlines, and double-checks that you don't miss any crucial information. Smart organization with academic integrity is part of the deal.The audio feature is able to energize reading for brains of any type be it visual, auditory, or kinesthetic by turning dense papers into lively discussions. Great for studying on the go, working out, or when questioning life while still in bed.

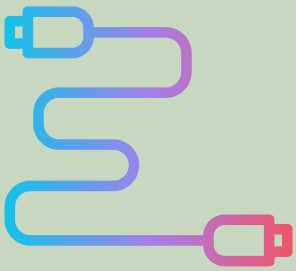
Google Notebook LM shows that AI could be a tool that speeds up human intellect instead of substituting it. In a world full with too much information and short attention spans, Notebook LM is like a call for help to students who want to work smartly, not harder.

ELICIT

There are over thousands of research papers published every year, yet the main problem that every student or teacher drafting these papers face, is during the research of the topic of their research paper. Honestly, reading over 100+ sites and pages can really be time consuming, and sometimes does not even provide the information on what we are looking for . Here is where Elicit AI comes into play.

Elicit AI is a literature and reasoning tool which helps users summarise the content they are looking for in minutes, rather than wasting time looking for it manually. Apart from research papers it has also affected the way students learn, and teachers teach. It has helped students quickly find and understand relevant topics and academic sources, it is useful for writing essays, projects and even for preparing debates, it also provides summaries of complex research papers in simpler terms making the overall user experience smooth and efficient. In terms of teachers, it has helped them in saving time for prepping for classes while providing them with evidence backed material, helped in curriculum design and overall academic sheets and making easy students notes for better teaching experience.

Elicit AI has a lot of long-term productive benefits, it provides efficiency as it cuts down hours of manual searching through various databases, provides clarity as it organises its findings in terms of tables and grids making it a better illustrative tool, it is accessible to everyone as it does not have a paid version and finally better than others as it helps students and teachers learn and teach respectively with up to date information. By simplifying research, reducing information overload, and enabling evidence-based learning, it not only enhances productivity in the present but also lays the foundation for long-term academic growth. As education continues to evolve in the digital age, tools like Elicit AI are not just conveniences, they are catalysts for a more informed, efficient, and empowered learning community.



TEACHER'S CORNER

ETHICAL USE OF AI IN EDUCATION

"Technology may change how we teach — but integrity must always define why we teach."

Artificial Intelligence (AI) is reshaping education by enhancing teaching and learning processes. From lesson planning to fostering inclusive classrooms, AI offers significant opportunities to improve efficiency and accessibility. However, these advancements carry a responsibility to ensure ethical, safe, and purposeful use. Educators must model and teach responsible AI practices to promote meaningful learning.

AI should serve as a supportive tool, not a replacement for human judgment. Educators and students can use AI to generate ideas, clarify concepts, or provide examples, but critical thinking must remain central. Avoid relying solely on AI-generated content without evaluation to maintain intellectual integrity and foster curiosity.

AI tools may produce inaccurate or incomplete information. Educators should model verification by cross-referencing AI outputs with credible sources, encouraging students to question responses critically, and discussing alternative perspectives. This approach promotes inquiry over passive acceptance.

Using AI-generated work without acknowledgment is academic dishonesty. To ensure fairness, require students to cite AI tools, design assignments emphasizing personal reflection, and prioritize creativity over mere task completion. Ethical use fosters honesty and deeper learning.

AI platforms often collect user data, raising privacy concerns. Educators must avoid sharing sensitive student information, use secure tools, and teach safe online practices to protect digital learning environments.

AI may reflect biases from its training data. Educators should review outputs for bias, use diverse examples, and engage students in identifying inequities to ensure AI promotes inclusivity.

AI can transform education when used ethically. By guiding students with integrity and critical thinking, educators ensure AI enhances lifelong learning.

-Akhil Lakshmanan
IT Department

DIGITAL REVOLUTION IN EDUCATION

Education in Indian history has traditionally been rooted in a close connection with the real world—effective, meaningful, and engaging. However, over time, this approach gradually shifted. The focus moved away from practical learning and problem-solving toward scoring marks and clearing competitive exams. As a result, the true essence of acquiring knowledge and applying it in real-life situations was lost.

In recent years, with the advent of technology, the education system has been re-energized. Teachers and students now have access to a wide range of digital tools and platforms that make the teaching-learning process more interactive, effective, and enjoyable. The revolution in Artificial Intelligence (AI) has added yet another dimension, offering personalized support and greater accessibility. Whether you are a teacher or a student, once you identify your areas of improvement, there are plenty of AI tools available to guide and empower you.

For instance, Grammarly helps improve grammar, spelling, and writing style in real time, while Elsa Speak enhances English pronunciation through AI-powered speech recognition. Labster provides virtual science labs for safe and simulated experimentation, and PhET Simulations offers interactive learning in science and mathematics. In humanities, Google Arts & Culture allows students to explore museums, artifacts, and heritage sites virtually, while MyHeritage AI Time Machine makes history more engaging by creating AI-generated historical portraits. Tools like Google Earth and NASA Worldview allow learners to explore 3D maps and real-time satellite data, while Wolfram Alpha and GeoGebra support mathematics with detailed solutions and interactive visualizations. The list is endless, covering nearly every subject with user-friendly, high-quality, and visually engaging tools that make learning both fun and meaningful.

Beyond subject-specific tools, AI also supports teachers in non-academic areas. Canva simplifies the design of posters, invitations, and event material; Tome AI creates engaging presentations; Jasper AI assists in writing for school magazines and newsletters; and Murf AI generates natural-sounding voiceovers for videos or announcements.

Beyond subject-specific tools, AI also supports teachers in non-academic areas. Canva simplifies the design of posters, invitations, and event material; Tome AI creates engaging presentations; Jasper AI assists in writing for school magazines and newsletters; and Murf AI generates natural-sounding voiceovers for videos or announcements.

The benefits are numerous—personalized learning experiences, automation of routine tasks, increased engagement, creative content generation, and support for different types of learners (slow, average, and advanced). AI tools also foster independent learning habits, preparing students for a lifelong journey of knowledge.

However, there are also a few concerns that require careful consideration. Over-reliance on AI may weaken teacher-student relationships, and AI systems can sometimes produce biased or inaccurate information—so verifying authenticity is crucial. Additionally, not all students have equal access to devices and reliable internet, which can widen the digital divide. AI-generated content may also lack the creativity, originality, and emotional depth that human expression brings.

To conclude, technology and AI can truly be a blessing in education when used responsibly. They have the power to enrich learning and teaching, making them more relevant, personalized, and enjoyable. Yet, misuse or overdependence can turn them into a limitation. The key lies in striking the right balance—using technology as a powerful aid without losing the human touch in education.

--Chirag Sharma
Faculty of Computer Science

CONTAINERIZATION AND IT'S ROLE IN GPU VIRTUALIZATION AND AI

In today's rapidly evolving technological landscape, containerization has emerged as a cornerstone for modern software development, deployment, and scalability. It refers to the practice of encapsulating an application and all its dependencies—libraries, frameworks, and configurations—into a single, lightweight unit called a container. Unlike traditional virtual machines, containers share the host operating system kernel, making them faster to start, more resource-efficient, and easier to replicate across different environments. Tools like Docker, Podman, and orchestration platforms such as Kubernetes have transformed the way developers build and manage large-scale applications.

The synergy between containerization and GPU virtualization has unlocked new levels of computational performance and flexibility. GPUs (Graphics Processing Units) are vital for AI workloads, as they accelerate the training of neural networks by performing parallel computations efficiently. Through GPU virtualization, multiple containers can securely share access to GPU resources without interfering with one another. Technologies like NVIDIA Docker, NVIDIA Container Toolkit, and Kubernetes GPU Operators enable direct GPU passthrough into containers, allowing applications to leverage powerful hardware while maintaining isolation and portability. This dynamic allocation of GPU resources ensures optimal utilization, minimizing idle time and energy wastage in AI clusters.

Furthermore, container orchestration with tools like Kubernetes provides automated scaling, load balancing, and fault tolerance for AI workloads. This means large-scale distributed AI training tasks can be managed effortlessly across multiple nodes. For enterprises, this approach significantly reduces infrastructure costs and operational complexity while maintaining flexibility and performance.

In conclusion, containerization, combined with GPU virtualization, forms the foundation of modern AI infrastructure. It enables researchers, developers, and organizations to build scalable, efficient, and portable AI solutions. By simplifying deployment and resource management, it accelerates innovation and democratizes access to advanced computing—ushering in an era where AI development is faster, more reliable, and globally accessible.

-Pawan Mali
IT Department

TIME MANAGEMENT USING AI

AI-powered Time Management: Just how to conquer Procrastination with the aid of RescueTime.

Procrastination is by far the biggest challenge for students who want to manage their time effectively. With many distractions just a click away, staying focused on the task can be very difficult. Rescue time right solution for it, Rescue time helps people live better by understanding and changing their habits.

RescueTime works by going around in the background, thus automatically tracking the time on which applications, websites, and different kinds of activities are spent. Then AI takes this information and creates reports for you with all the details demonstrating the distribution of your time. This level of openness assists students with identifying time-wasting activities and replacing them with more productive ones.

The other is the Focus Sessions tool. Along with preventing a user from visiting a distracting site during the locked study time, this device utilizes AI for getting the best hours of concentration that fit with the energy level of the user personal productivity pattern. Unlike manual planners or almost any kind of to-do list software, RescueTime does not require user input — its automation is what makes it particularly effective.

Benefits:

Automatic tracking of time (without the necessity of logging manually) AIsuggested productivity tips Distraction blocking during critical focus period Setting out custom objectives with instant feedback Weekly wrap-up reports for hints and progress

Compared to other tools, the passive tracking and adaptive AI in RescueTime make it the most efficient. While many time management apps require users to enter activities and watch over themselves, RescueTime takes that burden off users by performing all tasks in the background.

RescueTime shows students where they are losing their time in this world of digital temptations by providing them with data-backed and clear strategies. As well as helping you with your time planning, it also promotes the adoption of smarter routines that cut down on procrastination and facilitate the dispensation of academic success.

DIY PROJECT: BUILD YOUR OWN AI CHATBOT

Chatbots are now part of our daily lives. From Siri and Alexa to customer service bots, AI companions are everywhere. But here's the exciting part, you can build your own chatbot at home! With a bit of coding, some creativity, and an API key, you'll have your own personal AI assistant.

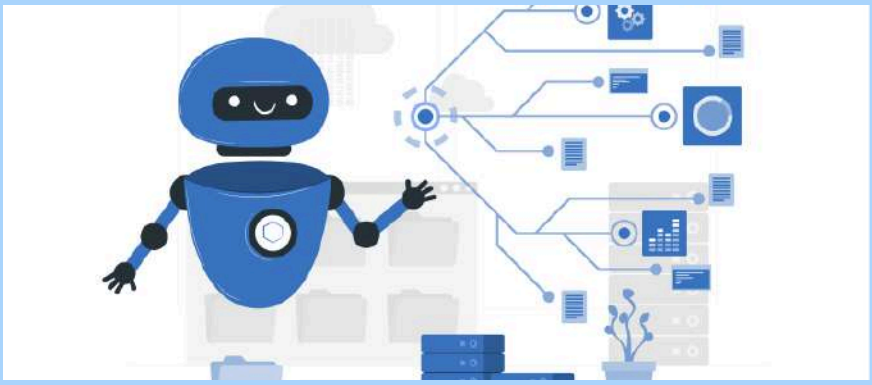
This guide is for students who want to explore AI development while keeping things fun, interactive, and practical.

What's an API Key?

Before we dive in, let's talk about API keys.

- Imagine you're entering a concert. The API key is like your ticket; it proves you have permission to access the event, in this case, an AI service.
- Without it, your chatbot can't communicate with the AI model.
- Every AI provider, like OpenAI, Google, or Cohere, gives you a unique key when you sign up.

Tip: Treat your API key like your ATM PIN. Never share it publicly, or others could misuse it.



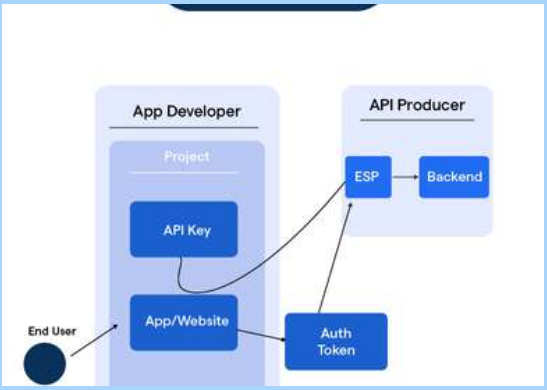
Getting an API key is a paid feature for many providers., therefore you can use a free version of it.

Here's your AI starter pack:

- A computer with internet access.
- Python installed (download free from [python.org](https://www.python.org)).
- An API key (for example, from [OpenAI](https://platform.openai.com)).
- A text editor (VS Code, PyCharm, or even Google Colab).
- A curious Scindian mind!

Highlight: If installing Python feels tricky, use Google Colab online,it runs code in your browser.

Step 1: Setting Up Your Environment



1. Install Python (skip this if you already have it).
2. Open your terminal or command prompt.
3. Install the required library:

```bash
pip install openai
```

4.Save your API key safely. For beginners, you can paste it directly in the code, but for real projects, store it in an environment variable or `.env` file.

Pro Tip: Storing keys in environment variables keeps your code safe if you share it online.

Step 2: Write Your First Chatbot

Here's how to make basic chatbot in Python:

```python
import openai
# Add your API key (for practice, paste it directly here)
openai.api_key = "your_api_key_here"

print("Hello! I am your AI chatbot. Type 'exit' anytime to quit.\n")

while True:
 user_input = input("You: ")
 if user_input.lower() in ["exit", "quit"]:
  print("Bot: Goodbye!")
  break

 response = openai.ChatCompletion.create(
  model="gpt-3.5-turbo", # choose a model
  messages=[{"role": "user", "content": user_input}]
 )

 print("Bot:", response['choices'][0]['message']['content'])
```

Try it out: Run the program and type:

- “Tell me a joke.”
- “What’s the capital of Japan?”
- “Explain photosynthesis like I’m 10 years old.”

Watch your chatbot respond instantly!

Step 3: Personalize Your Chatbot

Here’s where creativity kicks in. You can define your chatbot’s personality using a “system role”.

```python
messages = [
    {"role": "system", "content": "You are a friendly tutor who explains math problems step by step."},
  {"role": "user", "content": user_input}
]
```

Highlight: Try different personalities:
A wise old wizard giving magical answers.
A fitness coach motivating you with health tips.
A language teacher correcting your grammar.
Mini Challenge: Change your bot into your school mascot and ask it to cheer for you before an exam.

Step 4: Make It More Fun

Once your chatbot works, improve it with cool features:

- Add emojis to make replies cheerful and fun.
- Keep a conversation history to help the chatbot remember context.
- Use voice input with `SpeechRecognition` to talk with your bot.
- Save chats by writing conversations to a `.txt` file for later.

Example of saving chat history:

```
python
history = []

while True:
 user_input = input("You: ")
 history.append({"role": "user", "content": user_input})

 if user_input.lower() in ["exit", "quit"]:
 break

 response = openai.ChatCompletion.create(
 model="gpt-3.5-turbo",
 messages=history
 )

 bot_reply = response['choices'][0]['message']['content']
 print("Bot:", bot_reply)

 history.append({"role": "assistant", "content": bot_reply})
```

Quick Tips

- Keep your API key safe; never paste it in code you upload online.
- Start small; don't try to build Jarvis in one night.
- Gamify it by turning your chatbot into a quiz master for your friends.
- Share it by deploying your chatbot to Discord, Telegram, or a simple website.

Highlight: Once you're comfortable, connect your chatbot to apps like Google Sheets or your school website. Suddenly, you've built a real AI-powered assistant!

Example Use-Cases for Students

1. Homework Helper

Ask math questions, get essay ideas, or practice science quizzes.

2. Language Practice Partner

Chat with the bot in Spanish, French, or Japanese.

3. Motivation Coach

Ask for motivational quotes before exams.

4. Fun Storyteller

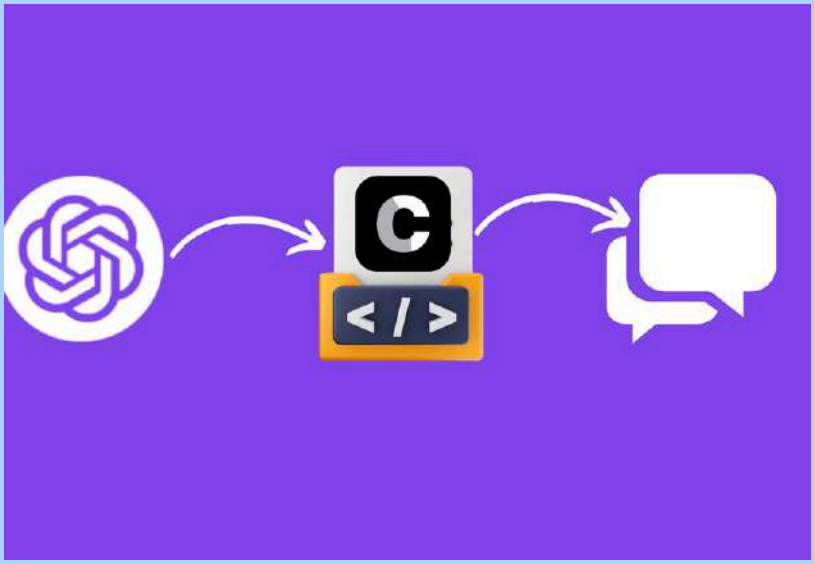
Create interactive stories where you choose the adventure.

Try this: Ask your bot, "Write me a story about a cat that time-travels to the future."

Building your own AI chatbot isn't just about coding, it's about imagination. You're giving life to a program that can think, respond, and even entertain. With an API key and a few lines of Python, you can turn your ideas into reality.

The journey starts small: one chatbot, one conversation, one curious student. Who knows? Your DIY chatbot today might grow into the next Siri or Alexa tomorrow.

Final Challenge: Customize your chatbot to reflect your personality. Will it be funny, serious, motivational, or a mix of all three?



TECHNOLOGY AND AI IN the SCINDIA SCHOOL

The use of technology and AI in The Scindia School has been evolving through the years. The first IT lab in India was inaugurated in 1985 in our school under the guidance and leadership of our ex-principal, Mr. NK Tewari, resembling its commitment to a better tech-supported learning environment for the students. With that honor, 4 students from our school were the first few students in India to give the first CBSE IT board exam, which was held in the early 1990s.

Our school has been equipped with smart boards since the year 2023, which has helped the students understand complex studies of subjects in a simple manner and has helped the teachers by providing them with an enormous amount of resource which could not be shared before . These smart boards have enhanced the learning experience as it provides video representation, power point representation, various research papers and other documents that the students have finally been able to access. It has different AI tools such as Canva and others that have helped the students make effective use of it for better learning and presentations. Along with these features it has also developed sense of collaborative work amongst students where group of students can work on the board together encouraging teamwork . In terms of teachers , these smart boards have helped save a lot of time as pre-made lessons can be stored , reused and edited whenever needed . Also, the engaging nature of these smart boards have reduced distractions as is makes a more engaging nature in the classrooms.

As the school was well equipped with 3 computer labs, some new reforms that were brought in the year 2025, were the fully advanced setup of i-Macs in 1 lab , which has further made the experience even smoother and faster. These advanced i-Macs have helped students access the softwares that were not available before.They also have multiple workspaces where split screens and multiple desktops help organise tasks better . Teachers on the other hand also make effective use of these technologies for making better competency-based questions and making levels of practice worksheets for students and to learn topics better and in an easier manner that can be conveyed to the students to better understand the topic to them . In its efficiency , it is better in terms of security and privacy, where built-in security reduces the risk of viruses and system crashes. With advancements in all the technologies, our school offers various hobbies and societies, such as IT club and robotics club, where students are taught how to use different AI tools for productive work, giving them insights about the tech world.

INDUSTRIES AND CAREERS IN ARTIFICIAL INTELLIGENCE (AI)

Artificial Intelligence (AI) has dramatically transformed the world. The technologies we use daily, like smartphones with facial recognition features, and self-driving cars, are all empowered by AI. For youngsters, it is no longer just a sci-fi novel it is a career route with multiple opportunities spread across various sectors.

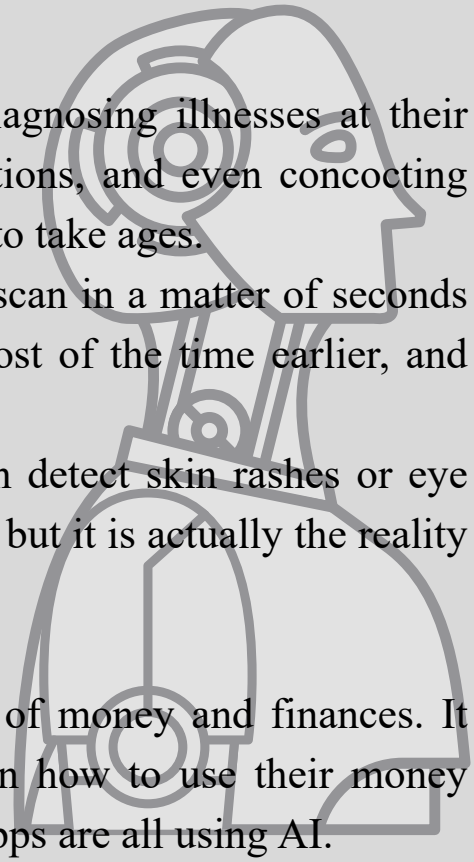
Where AI is Used?

1. Healthcare

AI is performing the miracles of the Medical World. By diagnosing illnesses at their earliest stages, providing assistance to doctors during operations, and even concocting personalized therapies for patients, AI is achieving what used to take ages.

Example: AI-powered machines can do an X-ray or an MRI scan in a matter of seconds and alert the doctors if something abnormal is identified, most of the time earlier, and more accurately than a human expert.

Why it matters for students: Building an application that can detect skin rashes or eye diseases with just a phone camera sounds like a futuristic idea but it is actually the reality of AI!



2. Finance

Artificial Intelligence is like Sherlock Holmes in the world of money and finances. It finds frauds, gives market predictions and advises people on how to use their money wisely. Banks, fintech companies and even personal finance apps are all using AI.

Example: PayPal or Money Manager are applications that use AI to analyze your expenses and warn you if you are spending in a way that is risky.

Why it matters for students: How about creating your own AI piggy bank that teaches you how to save in a smarter way instead of just putting money in?

3. Education

AI revolutionizes student learning by giving them personalized tutoring. No more one-size-fits-all lessons, AI-powered apps adapt with your pace, your strengths and weaknesses.

Example: Language learning platform Duolingo uses AI to adapt lessons based on the users mistakes leading to more effective learning.

4. Entertainment

AI in entertainment has gotten beyond even just recommending movies. Artificial Intelligence is helping in music composition, script writing and even creating more intelligent and realistic video game characters.

Example: Netflix recommends shows or movies based on what you have watched in the past whereas the games use AI to make the villains evolve and react just like a real human would.

5. Transportation

AI is the future of transportation just like a car with its engine. From self-driving cars to smart traffic management systems, the technology promises safe, fast, and eco-friendly rides.

Example: Teslas AI self-driving system is able to perceive traffic signs, people, and the road quality to name a few.

Engaging interactive thought: Envision AI-controlled traffic lights in your town that minimize wait time- how would your school morning routine be changed?

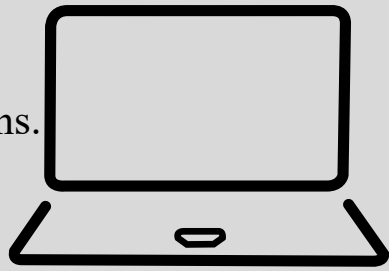
Careers in AI

The jobs in AI are a mix of creativity, logic, and solving problems. Here are some of the most promising roles:

1.AI Engineer

Creates and upgrades AI-powered solutions.

Skills needed: Python programming, Machine Learning frameworks like TensorFlow and PyTorch.



2.Data Scientist

Uncovers off-the-beaten-path data relationships that lead to predictions.

Has to have: Statistics, Programming, and Business knowledge.

3.Robotics Engineer

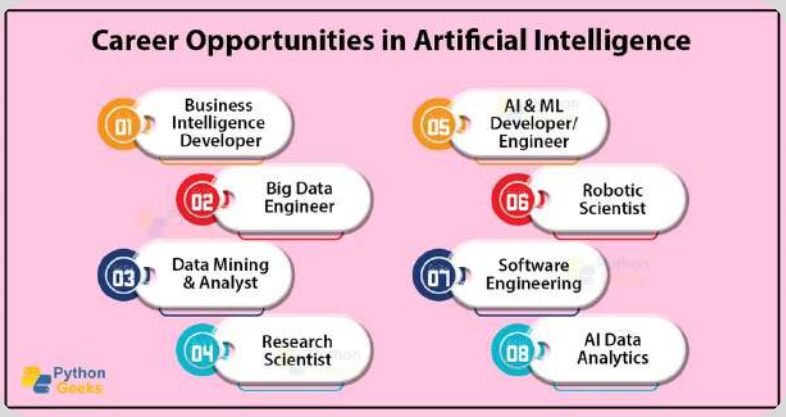
Creates intelligent robots that can move, learn, and provide assistance to humans.

They Should Be Skilled In: Electronics, Mechanics, Control Systems, and AI.

4.AI Ethics Specialist

Makes sure that AI is done impartially, without bias, and securely for society.

Can do any one of law, philosophy, or technology.



5.Research Scientist

Finds brand-new ways to push AI over current limits, inventing totally new approaches. Is Good At: Deep learning, mathematics, and imaginative thinking.

What about: The most interesting part of the list would be which position do you feel like taking up?

How Students Can Get Started

- Learn Python basics it is the starting point for most AI projects.
- Have fun with AI platforms such as Google Colab or Kaggle no need to install anything, and you can get right to work.
- Small projects are a great way to practice your skills why not create a chatbot, a plant health checker, or even an AI-powered quiz app?
- Get involved in competitions attend school coding events or join online hackathons to put your ideas to the test.
- Keep abreast of the latest trends read AI news, browse case studies, and follow tutorials on YouTube.

Artificial Intelligence was not just carved for machines but to aid humans in their daily lives and solve their problems. For students, the opportunities are infinite. Its an adventure into AI that starts with one project, one idea, and one inquisitive question. What if you could create an AI for your school or community, what would it do?

INSPIRATION AND CREATIVITY:

POSTCARDS FROM THE FUTURE: AI IN CREATIVE ARTS

Postcard 1: A Song from Silicon

Dear Scindians,
I just heard a hip hop song composed by an AI trained on 1,000 heartbreak ballads.
I didn't believe it was ai at first because it felt so real . Nowadays, musicians have started using AI tools like AIVA and Amper as their bandmates.
Which puts forward the question: Would you dance to a song written by a machine?
Yours truly
The Future

Postcard 2: A Story with No Author

Dear Scindians,
A writer got stuck on their novel and asked ai for help . The ai didn't just suggest ideas for chapter but it wrote a whole chapter.
Was it cheating? Maybe. Or maybe it's collaboration, just upgraded.
Tools like ChatGPT and Sudowrite are being used nowadays for plotting, editing, even dreaming alongside us.
Plot twist: the next great novel might have more code than coffee behind it.
Yours truly
The Future

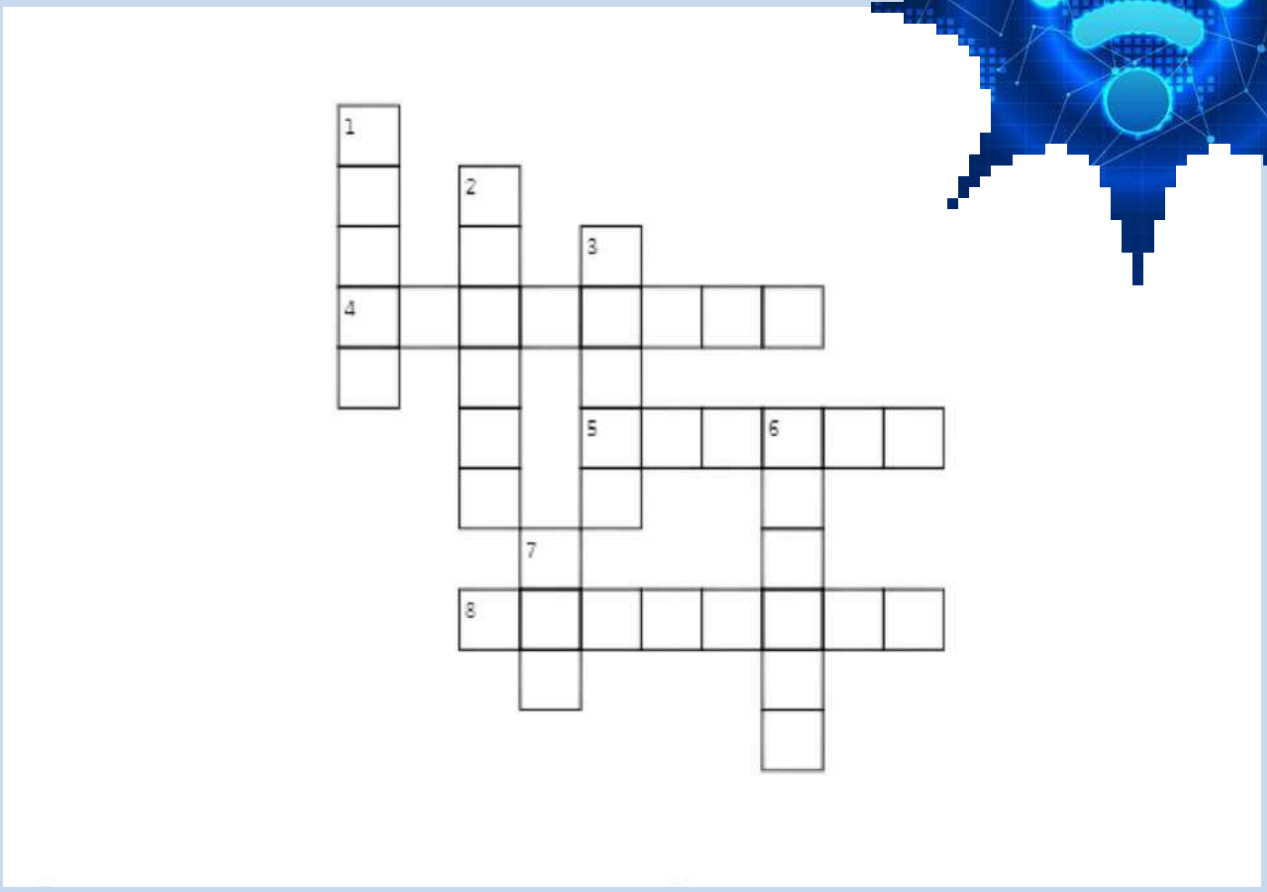
Postcard 3: A Design in One Click

Dear Scindians ,
Today, someone typed “futuristic jacket designs ” into an AI tool. Thirty seconds later, they had 10 fashion sketches. AI is creating logos and designs at light speed. Design isn’t just about drawing anymore—it’s about directing imagination.
Creativity hasn’t died. It’s just gotten weirder—and wider.
Yours truly
The Future

In the end , we must realize that AI isn’t replacing artists—it’s remixing the whole idea of art.If creativity is a playground, AI is the newest kid with wild ideas and endless energy.

FUN CORNER

CROSSWORD



VERTICAL

1.What you never check until the last minute

2.Not a snake, just a language that silently judges your indentation skills

3.When your code, hopes, and laptop all give up simultaneously.

6..IT's version of "Have you tried turning your life off and on again?"

7.The modern excuse for failure: in gaming, online class, or life.

HORIZONTAL

4.The "cloud" that rains disappointment during Netflix night.

5.What you do on Google and in your soul at 3 a.m.

8.The thing you forget more often than your homework.

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