

this issue

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Editorial Column **P.1**

Editors' Musings **P.2**

A short introduction to chatbots **P.3**

Artificial Intelligence for everyone **P.4**

Featured Tool – ProProfs Knowledge Base **P.6**

Tips and Tricks – MS-Word **P.7**

Editorial Column

As this edition goes to print, Google has set up an AI experiment lab dabbling across learning, writing, drawing, teaching machine language and even singing like Freddie Mercury.

The writer in me was curious to know how Google combined AI with writing and I came across a very interesting collection that will make the writer's task as easy as can be. I would like to briefly profile five interesting tools, three from Google Creative Labs and two from Sandpit to help writers.

Banter Bot – helps to talk to the character while you write to them. It picks up intelligence on the subject of a character and then becomes a regular conversation bot.

Once upon a lifetime – helps explore options' for a character's life story.

Between the lines – helps you generate text between two sentences so that as you write you are taken in unexpected directions.

Playground – As the name suggests is a free-form environment that talks to the writer and gets basic inputs like name and description of the character they are working on. The writer can then expand the character by providing text fragments related to the character's appearance, and personality. It is also powered to directly ask the characters questions as in a Q&A-like format.

Telescope – This tool baffled me out of my wits. Imagine an AI app in your pocket. You step out for a walk and you articulate your thoughts about the character. Google Docs add-on is activated and takes notes about the character, its surroundings that you walked through, the location that is activated with Google maps and the camera captures and makes note of the characters whom you walked past. The app then begins a sort of 'stream of consciousness' audio - using text-to-speech - which combines the character's qualities with inspiration from the writer's immediate surroundings. The storyline generated using this app could, therefore, be either inspirational, boring, based on events that were covered (topical) and yet something very amusing.

All the above are a collection of digital writing tools powered by machine-learning-language models such as TensorFlow, Polymer, and GPT-2.

Interesting tools

If you have come across any tool, open source or paid, which can make our life easy, please do send us an article on the tool, along with an author profile, to indus@stc-india.org

Editors' Musings

What is an Emerging Technology?

"An emerging technology can be defined as "a radically novel and relatively fast growing technology characterized by a certain degree of coherence persisting over time and with the potential to exert a considerable impact on the socio-economic domain(s) which is observed in terms of the composition of actors, institutions and patterns of interactions among those, along with the associated knowledge production processes. Its most prominent impact, however, lies in the future and so in the emergence phase is still somewhat uncertain and ambiguous." **Source: Wikipedia**

It is either emerging out of obscurity or is a new technology or a convergence of technologies, they change the status quo of the industry, the impact is social and economic. They are progressive developments with a competitive edge in terms of growth and impact. There are many parameters which are analyzed to classify these technologies,

1. Growth of a segment over a period and scale of adoption
2. Projected economic size in terms of revenue generation
3. Impact on industries
4. Interaction and convergence aspect of various technologies
5. Social and economic impact and transformation

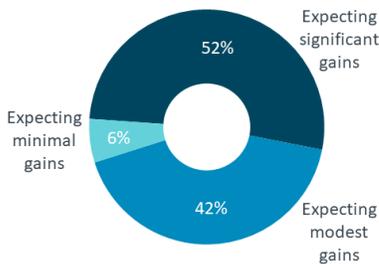
Industry experts are analyzing each technology and coming up with use cases, research studies, growth trajectories, and impact analytics. The future is evolving with improved and enhanced technology advancements.

Emerging technologies typically go through the following sequential stages: (Source: Wikipedia)

1. Hypothetical
2. Research and development / experimental / trial projects
3. Working demonstrators
4. Commercialization / diffusion

Check out the exhaustive list https://en.wikipedia.org/wiki/List_of_emerging_technologies

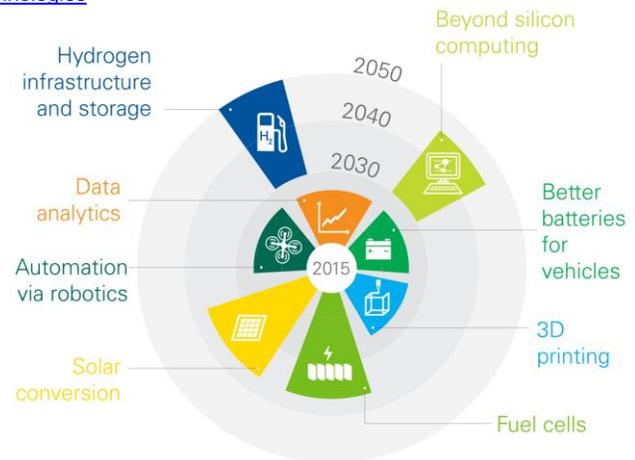
Channel Firms Expecting Big Things from Emerging Tech



Trends with the most hype

From a channel perspective

- 5G
- Artificial intelligence
- Internet of things
- Virtual reality
- Biometrics
- Quantum computing
- Robotic process automation
- 3D printing
- Edge computing



Example of the impact of IoT



Author Profile

A jack-of-all-trades, Xavier prefers to be a generalist in his approach to technical communication. Having played multiple roles over the years, he is interested in sharing what he knows with others. He writes about user assistance and user experience at [Paper Arrow](#) and his personal experience at [Odyssey](#)

Simplified Glossary of Terms

Chatbot: A program that can communicate to you by text.

Voicebot: A chatbot that can speak to you using natural language.

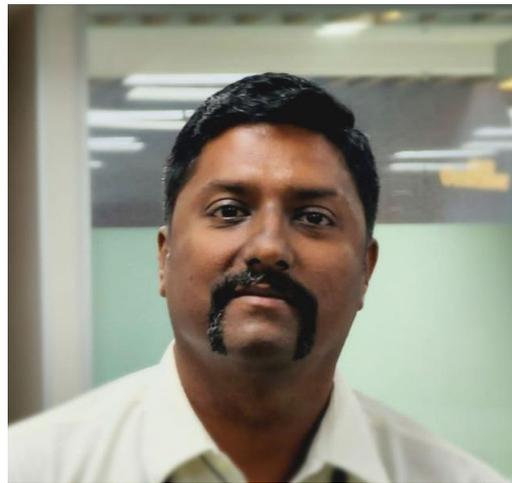
Decision tree: A flowchart-like structure that determines how the chatbot will communicate.

Context-switching: This occurs when you are talking about one thing and switch to another subject mid-way through a conversation. Chatbots find it difficult to handle that.

Natural Language Processing (NLP): The field of study focused on the interactions between human language and computers. NLP helps machines *understand* text by simulating the human ability to understand language.

Machine Learning (ML): A set of algorithms through which computers learn by feeding them data and letting them learn a few tricks on their own, without being explicitly programmed to do so.

Machine Translation (MT): The process by which computer software is used to translate a text from one natural language (such as English) to another (such as Russian).



A short introduction to chatbots

Xavier Roy

A chatbot is a software that simulates a conversation with a user. This conversation can happen *textually* via messaging applications or websites or *orally* via voicebots (chatbots that support voice) or smart assistants.

Currently, there are two approaches to chatbots. One is the rules-based approach and the other is the AI-based approach.

In a *rules-based bot*, the conversation follows a predetermined path (known as a *decision tree*). A decision tree can be thought of akin to a flowchart, and they can be either simple or complex decision trees. These bots work best when confined to a specific domain and are easy to build as the rules of interaction are well-defined. The rule-based bots are analogous to an IVR in a customer care center. One drawback is these bots cannot switch contexts within a conversation as they have very structured dialogs and answer specific questions by matching the user input to pre-programmed answers.

An *AI-based bot* depends on various artificial intelligence techniques like Natural Language Processing (NLP) and Machine Learning (ML) to understand the user input and communicate accordingly. The bots can also learn over time and improve their responses. The AI bots can follow two different models: *retrieval-based* model or *generative* model.

- A retrieval-based bot model uses a repository of predefined responses and heuristics to pick an appropriate response based on the input and context. The heuristic could be as simple as a rule-based expression match, or as complex as an ensemble of Machine Learning algorithms. These systems don't generate any new text, they just pick a response from a fixed set of available responses. For example, a bot for a store that responds to questions about opening hours or the returns policy.
- A generative bot model does not rely on predefined responses. As the name suggests, they generate new responses from scratch. Generative models are typically based on Machine Translation techniques, but instead of translating from one language to another, we "translate" from an input to an output (response). Smart assistants like Google Assistant, Alexa and Siri fall under this category.

Let's consider a use-case for a bank for these different chatbot types. The bank wants to offer its customers the ability to view their bank balance, trigger a payment, or look up transaction fees.

A first-gen bot would show you options to look up your balance or pay your credit card bills. It may even display a list of say transaction fees. Most of the time, these bots require you to use a pre-configured word/phrase like "View Account Balance" or a number to perform the action.

An AI-based bot would accept either text or voice to perform the same operation as above but with an expected keyword in your conversation. It looks for some keywords to trigger an action. A well-trained bot could understand the difference when you say *I want to view my account balance* and *I want to view my loan balance*. It could either trigger a follow-up query if you state, *I want to view my balance*. And a third-gen bot could also support other banking tasks like applying for loans or transferring money.

Chatbots, for technical writers, provide an interesting challenge. Because firstly, there is no UI that requires extensive documentation. Secondly, the lack of a UI requires a different type of documentation like APIs (most chatbots rely on APIs to get things done) and Conversations. As conversations in chatbots are purely words, writers are in a position to design an effective conversation flow and this can make or break a chatbot.

I wrote this post after a discussion on chatbots in one of the technical writing groups. There was a poll asking people what they preferred: talking to a chatbot or a human. About 70 % stated that they preferred talking to an agent instead of a chatbot. I realised this was mostly due to a misconception on what chatbots can do. I thought it would make sense to consolidate my notes on what chatbots are and post them.

This article was adapted from the blog post, [about chatbots](#) and a podcast, [chattering about chatbots](#) on Paper Arrow.

Author Profile

Ravi Kumar Adapa, a regular speaker at STC India annual conferences and a Voice Tech champion, with 19 years of experience in the fields of writing, training, customer experience, team management, and project management.

He is a M.A and M. Phil in English language and literature with a PGCTE and PGDTE from CIEFL, Hyderabad.

Besides writing and designing, he has a child-like curiosity and passion for new tools, apps and technologies. He brings future-ready ideas, he is fondly called AlexaMan of technical writing community by his writing peers in Hyderabad for his active research and innovation using Alexa, the next generation voice assistant.

On the family front, he lives in a joint family and loves to spend time with his two little daughters Tanmayee and Chaitra.



Artificial Intelligence is for Everyone

Ravi Kumar Adapa

Artificial Intelligence (AI) is nearly everywhere now. Sometimes it's fairly obvious (as with a chatbot), and sometimes AI is hidden under the covers (as with data modeling algorithms). AI is at the heart of digital disruption across nearly every industry.

When a simple speaker at your home, at your behest, adds a grocery item to your shopping list, there's artificial intelligence (AI) working, to understand the talk, determine what you want to do, and carry out the instruction.

When you see the covid-19 stats, an AI-powered algorithm analyzes the current trend, predicts the plateau, suggests measures to flatten the curve, and helps governments chart a path forward.

What is AI?

AI has been a buzzword for quite some time, so what exactly is artificial intelligence?

Ar-ti-fi-cial In-tel-li-gence Noun:

Definition: The theory and development of computer systems' ability to perform tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages.

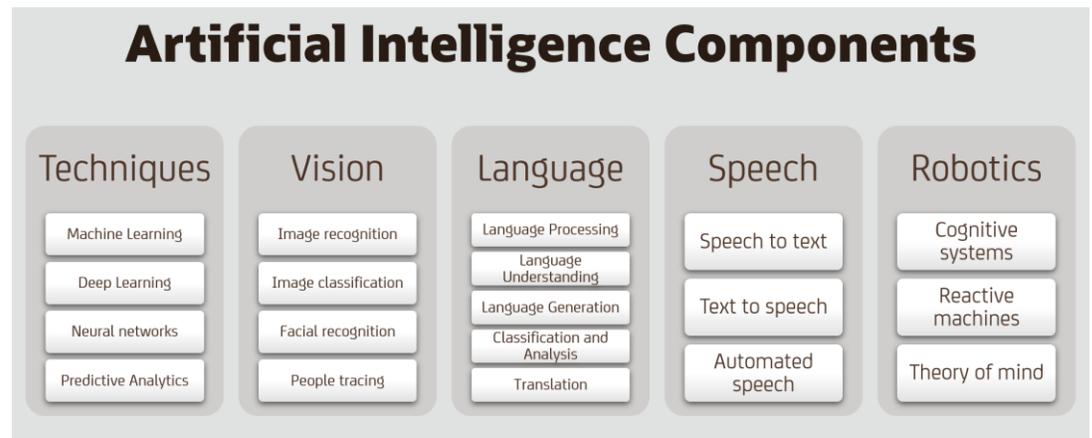
AI History and Timelines

AI has traversed through the decades (yes, see the [AI timelines](#)) of hype and now widely used all over. People often associate AI with the hollywood sci-fi, hi-tech gadgets, self-driving cars, voice assistants, sophia humanoid, or the workplace of tomorrow. Slowly and surely, AI is influencing every aspect of businesses and our daily lives.

AI is as foundational term as electricity or fire. As Sundar Pichai, CEO of Google says "Artificial Intelligence is one of the most important things humanity is working on. It is more profound than electricity or fire."

AI Components

Let's have a closer look at the AI components:



In simple terms, artificial intelligence is all about allowing computers to accomplish tasks normally associated with human intelligence. See a primer on AI [here](#).

How is AI Impacting Businesses?

New generation companies thrive on innovation. And this innovation is driven by one's ability to analyze the data, infer ideas from data, and translate these ideas into successful businesses.

The methods of reaching out to the existing customer base, surveying, and reviewing their responses entails a huge overhead in the traditional world. But now, AI can help you do it way better. You're already sitting on a mountain of data.

AI can sift through the data to uncover patterns you might otherwise miss and then combine that information with your survey results to allow you to make better decisions about the new business you want to create.

Time is a luxury, as you can tell, businesses do not have. In this customer-driven world, whoever has better customer insights, caters to the customer needs, and adapts to the market wins. AI can do all the heavy lifting so that people can flex their creative juices.

AI Needs You

Let's understand, AI isn't all that intelligent without you. Businesses achieve the most significant performance improvements when humans and machines work together. According to [HBR](#), what comes naturally to people (making a joke, for example) can be tricky for machines, and what's straightforward for machines (analyzing terabytes of data) remains virtually impossible for humans. Successful companies require both kinds of capabilities.

"Through collaborative intelligence, humans and AI actively enhance each other's complementary strengths: the leadership, teamwork, creativity, and social skills of the former, and the speed, scalability, and quantitative capabilities of the latter."
—Harvard Business Review

Where Do I Start?

Where do I start? What should I read? Which courses should I enroll? What conferences do I attend?

I myself have asked and been asked about the ways to get started with AI. Honestly, all it took was a simple google search. Try it to believe it. I am sure you'll be overwhelmed with the wealth of resources available online.

As professionals, you become a better version of yourself through constant learning and upskilling. Initially, you can start with some free courses on Coursera, Udemy, Udacity, and LinkedIn learning and then graduate to paid courses based on your interests. AI can help you in both personal and professional contexts.

Can AI Help Me in My Work?

AI is helping to enhance just about every single industry, and AI is here to stay. As it moves from early innovators and adopters to the mainstream, all of us have a role to play on this path of progress. AI can add value in the entire life cycle of a product; from market analysis to user research; from design to usability; from experience to customer success; from innovation to digital transformation.

Wondering how you can use AI in your domain, ask yourself these questions:

- Which problems are having the most impact on my product, process, and business?
- What aspects of my work can be improved with AI?
- How can AI potentially make my processes more efficient?
- How can other teams within my organization benefit from adopting from AI?
- How can I influence senior leadership to embrace AI?

You can always positively impact processes, operations, and outcomes.

As you marvel more at this extraordinary intelligence of technology and its use, do agree AI is now everywhere? You don't believe it, ask a chatbot.

We love hearing from our readers!!!

Send your comments, feedback, suggestions, thoughts, musings, and ramblings to indus@stc-india.org with the subject line as **Comments**.

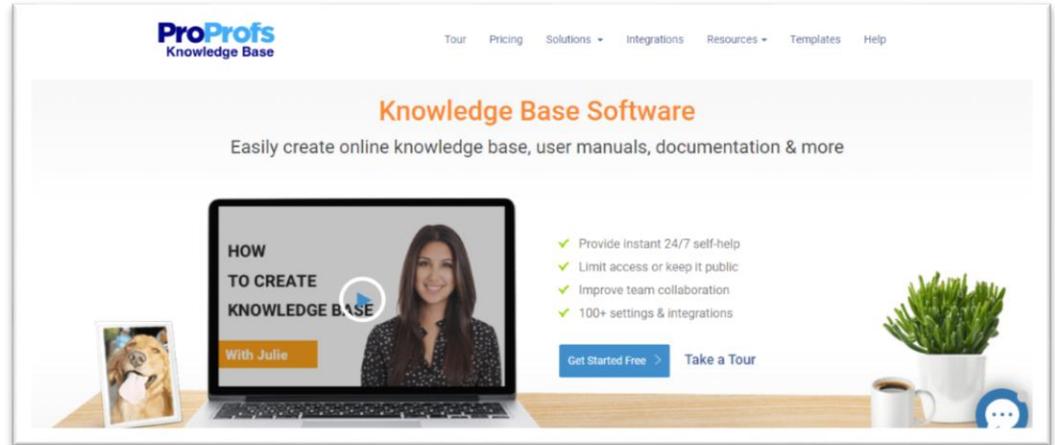
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Featured Tool – ProProfs Knowledge Base

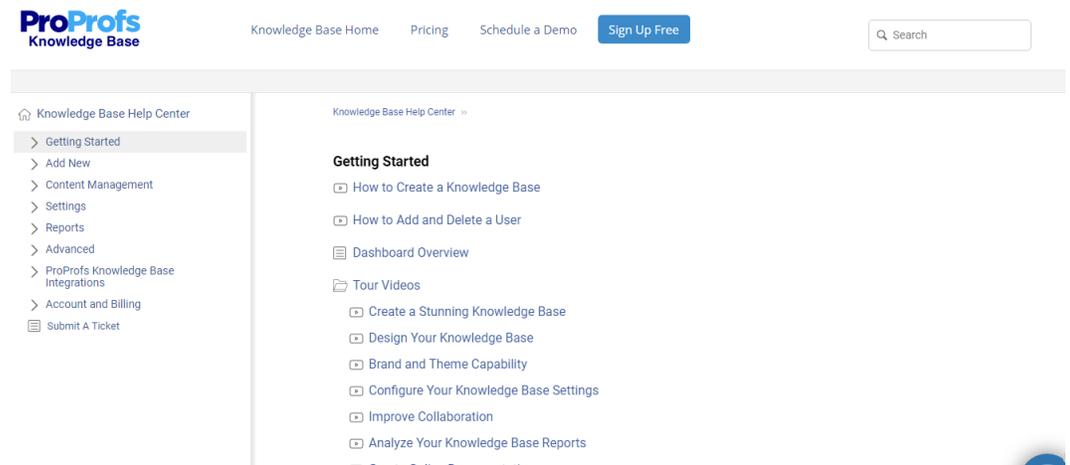
ProProfs is an knowledge base software which helps in creating, through a vast repository of templates, an online knowledge base, documentation, user manuals, training manuals, technical documentation, online help, wiki, etc. There is a free trial version, valid for 15 days, with a limit of 20 pages. Since the functional point is a page, the pricing is also by the number of pages with unlimited options, (<https://www.proprofs.com/knowledgebase/signup/business/>).



Salient Features

1. Build a knowledge base in minutes
2. Limit access rights or open it to public by setting privacy controls
3. Team Collaboration, assign roles and permissions to each individual in the team
4. Access to 100+ settings and integrations, integrate with popular tools like Google Analytics, LiveChat,
5. Customize the knowledge site with branding and logo

The help center is very useful to learn and use this online software,



Some useful links

ProProfs features - <https://www.proprofs.com/knowledgebase/tour/>

Examples - <https://www.proprofs.com/knowledgebase/examples/>

Templates - <https://www.proprofs.com/knowledgebase/templates/>

Help Center - <https://knowledgebase.proprofs.com/getting-started>



Tools – Tips and Tricks – MS-Word

Bookmarks, Hyperlinks, and ConRef

Bookmarks

Word has two types of bookmarks, the single bookmark and the double bookmark. The single bookmark is an I-beam and is a location in the document. The double bookmark is a set of square brackets, the markers are formed when you select a portion of a sentence or a set of words; everything within the set of markers is considered as the content of a bookmark.

1. Select the location or a set of words
2. Insert tab→Bookmark
3. Give a name to the bookmark (space is not allowed, underscore is allowed in a name).

Hyperlinks using a bookmark

The combination of bookmarks and hyperlinks is one of the best while using them in a word document. You can also cross reference a bookmark but, the scope here is to describe how to use a hyperlink to access a defined bookmark.

Assuming that a bookmark has been created,

1. Click the Insert→Hyperlink (under Links in the ribbon). The insert hyperlink dialog box is displayed.
2. Click the Place in this document option, a mini toc is displayed along with the bookmarks.
3. Select a bookmark and click Ok.

These steps can be repeated while using images (the arrow mark in this section is an example of a hyperlink used with an image, click the arrow mark and see the control transferring to the bookmark selected).

ConRef

If you are familiar with DITA concepts, then ConRef is a known attribute. The content reference attribute is used at the topic level, on a block, a phrase, or a dita map; the main functionality is resuability. Let us see how we can create a simple effect of resuability in word using the Ref field and bookmarks.

1. Create a bookmark which has to be repeated.
2. Place the cursor in the document to create the reference to the bookmark.
3. Click Insert tab on the ribbon.
4. Drop down Quick Parts (under the Text option).
5. Select Field, the field dialog box is displayed.
6. In the field names, choose the Ref field.
7. Select a bookmark from the list. (It copies the content of the bookmark at the selected location).
8. Tick the Preserve formatting during updates check box
9. Click Ok.

Reference the bookmark in multiple places (Repeat the steps from 3 to 9 or copy and paste the recently created field). . Edit the content in the bookmark and follow the steps to update all the referenced bookmarks with the updated content.

1. You can edit the content in a bookmark, the first step is to “show” bookmarks in the word document.
2. Then add or update the content within the double brackets.
3. Press CTRL+A and press F9 to update all the occurrences of the bookmark.

Quick Tips & Tricks

CTRL+Click

Isn't it irritating to use the CTRL + Click while using hyperlinks, cross-references or the TOC in MS-Word?

To do away with this key combination and to only see the hand symbol, do the following,

1. Click File→Options.
2. Select the Advanced option from the menu.
3. In the Editing Options, uncheck the “Use CTRL+Click to follow hyperlink” check box.
4. Click Ok.

Internet Links

Sometimes, when you copy a link from the Internet and paste it in a word document, you see only the plain text copied, the link effect is not visible.

1. Click File→Options.
2. Select the Proofing option from the menu.
3. Click the AutoCorrect Options button.
4. Click the AutoFormat As You Type tab.
5. Under Replace as you type, select the “Internet and network paths with hyperlinks” checkbox.
6. Click Ok.

Show Bookmarks

To work with bookmarks, you may need to see them or they can be accidentally deleted.

1. Click File→Options.
2. Select the Advanced option from the menu.
3. In the Show document content, select the “Show bookmarks” check box.
4. Click Ok.

