



# The Essential Guide to No-Code AI

In Conversational Messaging and More!

*“Artificial intelligence has developed to the point where chatbots and virtual assistants can have more nuanced interactions with humans—and that opens a wealth of possibilities.”*

–MIT Technology Review



Artificial Intelligence (AI) – the technology that helps create “smart” machines and devices with near-human capabilities for thinking, learning, reasoning and acting – has been in the spotlight for the past few decades. In combination with technologies like Machine Learning (ML), Automatic Speech Recognition, and Natural Language Processing (NLP), AI is creating a paradigm shift in virtually every industry. Organisations everywhere want to harness the latent power of AI to accelerate innovation, transform operations, enhance productivity, efficiency, profitability, and create a positive impact on stakeholders.

### **This is why, as of 2021:**

- 86% of CEOs say AI is mainstream technology in their organisation
- 75% fear going out of business within five years if they don't scale their AI investments
- 54% say that implementing AI in their workplace has increased productivity

### **And also:**

- Between 2020 and 2027, the AI market is expected to grow by 33.2%
- By 2025, its value will top \$190.61 billion
- By 2030, AI will add an estimated \$15.7 trillion (26%) to global GDP

(All statistics from Semrush)

In this ever-expanding AI world, Conversational AI (also known as conversational messaging) applications like chatbots (“bots”) and virtual assistants are particularly garnering a lot of interest. These bots can “talk” to customers, predict their future behaviours, and even make recommendations based on their traits, demographics, preferences, or past behaviours. No wonder 32% of companies globally are already using conversational messaging chatbots, voice assistants and virtual assistants to:

- Have fluid, personalised and automated customer conversations at scale
- Manage customer volume surges
- Streamline back-office operations, and
- Continuously optimise Customer Experiences (CX)

This is all true for a wide range of industries and sectors including **finance, insurance, education, healthcare, retail, travel and hospitality, manufacturing, marketing, and even recruitment.**

This exponential growth in the development and adoption of conversational AI is driven by market demand. However, it is supported by the increasing availability of no code AI platforms and bot creators from companies like Gupshup.

- > **So, what is no code AI?**
- > **How does a no code AI tool/algorithm work?**
- > **Is it the same as a no code AI builder?**











Whether you're an organisation looking for information on the applications and benefits of no code AI, or simply someone interested in this cutting-edge technology – this guide is for you.

## What is No Code AI?

No code AI is simply "AI without coding". It represents a fast, easy and low-friction approach to implement AI-based applications without expending effort on coding and associated activities like testing, debugging or documentation.

The no code AI landscape consists of numerous tools that allow individuals and organisations to build AI-powered applications and systems without needing to program (code) them in a conventional manner. Thus, instead of coding, they can simply access the core functionality of these tools through visual interfaces and guided user actions, to design, develop and deploy the applications they need. They can also leverage pre-built integrations to exchange information with other tools, and scale up their applications quickly and effortlessly.

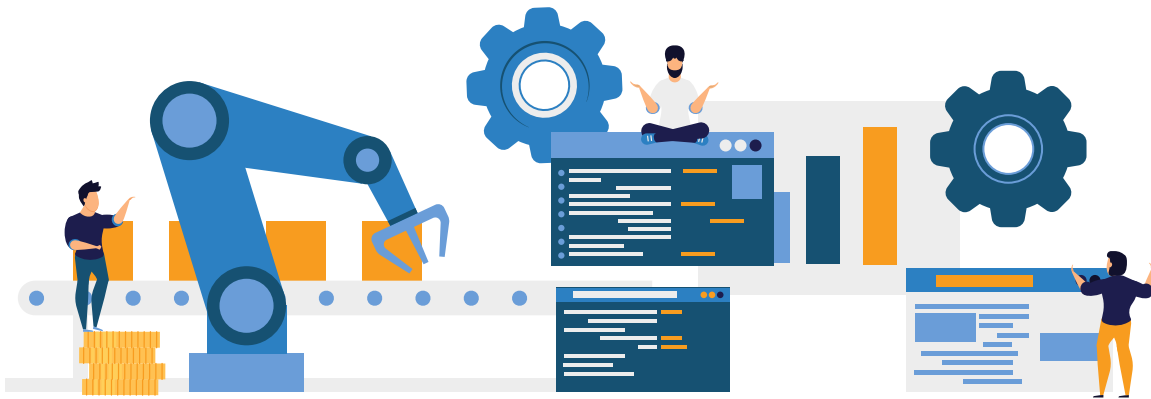
In addition to conversational messaging chatbots and virtual assistants, no code AI tools are also useful to build:

	<b>Websites and landing pages</b>		<b>Software applications</b>
	<b>User login pages and payment gateways</b>		<b>eCommerce applications and stores</b>
	<b>Website applications</b>		<b>Databases</b>
	<b>Mobile applications</b>		<b>Automated web workflows</b>

# Programming-based AI vs No Code AI

## Rule-based Automation

Rule-based automation systems have been in use for several decades. Such systems apply human-made rules to store, sort and manipulate data, and to trigger certain actions. These rules usually take the form of “if statements” to describe a trigger, which then specifies a particular action to be completed automatically. For example, the if logic might be “if email subject contains the word “FREE OFFER”, automatically move it to the “Spam” folder. Such systems try to mimic human intelligence, but are highly limited since they cannot auto-adapt to changing requirements, or make intelligent, autonomous decisions.



## Cognitive, AI-based automation

Cognitive automation, i.e. automation powered by AI, addresses these gaps. This intelligent automation approach can learn, adapt, make decisions, and take actions on its own with minimal or no human intervention. For this, it leverages a combination of Computer Vision to recognise images, Natural Language Processing (NLP) to understand human language, and Machine Learning to predict outcomes and adapt its future actions. In short, where rules-based automation ends, cognitive AI begins.

Cognitive AI is especially useful when intelligent, human judgement is to be made on an ongoing basis. This creates an immense pool of use cases where it can be truly game-changing:

- › **Marketing:** To reach the right customer with the right offer at the right time
- › **Sales:** To improve sales forecast efficiency, generate better leads and qualify them faster
- › **Customer support:** To understand customer behaviours and motivations, and deliver personalised support with conversational messaging chatbots to improve satisfaction and brand experiences
- › **Business decision-making:** Structure data into a meaningful format and easily visualise it to improve decisions
- › **Fraud detection:** Detect fraudulent and abnormal behaviours, reduce risk and uncover non-compliant/illegal actions

- > **Enhance human health, wellness and longevity:** Analyse patient data to improve diagnostic efficiency, and deliver customised medication or care plans
- > **Hire and retain the best candidates:** Evaluate candidates' skills and better understand their potential "fit" before hiring
- > **Secure organisational assets from cybercrime:** Predict and thwart impending attacks, protect enterprise data and intellectual property, and ensure compliance with industry security standards

As this use case pool widens, it's becoming increasingly obvious that the "democratisation of AI" is well under way.

However, programming-based AI is intimidating to users who are not techies, data scientists, developers or engineers. This often limits the technology's full potential and scale. Here's where no code AI technologies (e.g. no code NLP) can be a massive boon for organisations.

## No code AI

A traditional AI process involves multiple steps like data preparation, feature extraction, model selection, model fine-tuning and model training. A no code AI process eliminates most of these steps, allowing users to quickly classify and analyse data, build and train accurate models, and make predictions – all with a simple, visual, drag-and-drop interface and/or built-in project templates. Simply put, no code AI tools replace hundreds of lines of code with simple visual instructions.

Such tools can also automate the process of building multiple models simultaneously. No programming knowledge or ML expertise is required, so these platforms can be used by enterprise leaders, artists, teachers, medical technicians, nurses, factory managers, etc. The list of potential users is almost endless.



No code AI has even entered the realm of no code NLP and no code conversational messaging. Such solutions enable non-technical users to ask questions in natural language to access information and data predictions. NLP technology interprets the user's question based on an analysis of language grammar, syntax, semantics and context to find the right data.

It then evaluates multiple ML algorithms in parallel to find the right algorithm for the identified dataset, identifies the key attributes that could potentially impact the outcome the user is trying to predict, and quickly delivers results. These applications are ideal for small and medium businesses that don't have their data science team, but would still like to leverage no code AI, no code ML or no code NLP within their business operations.

# How No Code AI Tools and Algorithms Work

No code AI algorithms simplify life for end users. But to do this, they do a lot of work in the back end. Here's how no code AI algorithms/no code AI builders work their magic.

## 01 >>> Pre-process Data

Once the user enters a query and presses "Go" on the no code AI tool, it starts converting raw data into inputs that the ML algorithm can understand. This means, it removes all cells containing empty, null or too many unique non-numeric values. This step, also called Feature Engineering, helps improve the accuracy of the underlying ML model.

## 02 >>> Normalise Data

Next, the tool modifies, i.e. normalises, the values of the numerical columns to get more accurate ranges. This step is especially important when there are two very different ranges in the model's dataset. Normalisation helps ensure that the larger range does not influence the smaller range, or worse, make the eventual prediction inaccurate.



## 03 >>> Build the Training Model

The no code AI tool evaluates multiple (sometimes hundreds or thousands) algorithms based on the dataset and its properties to find the right algorithm/combination of algorithms for optimised accuracy. And it does this on the fly to yield results in a very short time.

## 04 >>> Test Algorithm Accuracy

To further improve prediction accuracy, the no code AI tool may separately test specific parts of the dataset for consistency with the rest of the dataset. This ensures that the algorithm works accurately for the entire dataset.

# The Benefits of No Code AI

In 2019, AI was a strategic priority for 83% of businesses. Another 75% believed that AI would enable them to expand into new businesses and ventures. Around the same time, Gartner also discovered that the number of enterprises using AI had grown by 270% in just the previous 4 years.

As demand for AI tools grows in marketing, sales, financial services, on-site personalisation, product innovation, process automation and many other areas, demand for skilled AI personnel is also on the rise. Between 2017 and 2019, the demand for AI talent had doubled, with two roles available for every AI professional. More recently, a survey revealed that there's a real and persistent AI talent gap, particularly in ML modelling and data science, understanding business use cases, and data engineering. These developments automatically make a strong case for no code AI tools. Such platforms reduce the time and effort required to build AI models, enabling companies to easily implement AI and ML in their processes.

Here are some more benefits of visually-rich, drag-and-drop-enabled no-code AI tools:



## Accessibility

No-code AI tools make AI more accessible for organisations, especially those that lack the funds to invest in the technology. These tools can also ease the organisation's AI journey, and prepare them for more intensive use of AI processes, tools and algorithms in future.



## Low Financial Investment

Programmable AI tools require technical professionals with the right skills and hands-on knowledge for tool design, coding, testing, deployment and maintenance. Depending on the tool's expected functions and features, these resources can be a hefty cost for organisations. No code AI tools require a very small investment on the platform, and almost none in "experts". This helps mitigate one of the biggest obstacles to AI adoption in small and mid-sized companies.



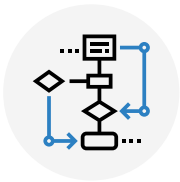
## Ease of Use

No code AI tools are designed with non-technical users in mind. That's why they usually offer plug-and-play usability, allowing any user to design an AI solution for any kind of problem.



## Accelerated Time-to-value

Without the hassle of coding or debugging; users can go through multiple iterations to create and deploy a solution quickly. Some studies claim that no code AI solutions can cut development time by as much as 90%. They can also experiment with their data to improve the quality of their algorithms and predictions.



## Automation with Minimal Errors

Since no code AI platforms are built for non-technical users, a lot of the hard work has already been done by the product creators. This includes building in robust defaults and safety measures to support enhanced automation with minimum possibility of error. Furthermore, many tools also have built-in human review processes so they can ask for and accept human input when required. These capabilities not only reduce human errors and their impact but also allow human-tool interactions for more streamlined operations and optimum results.



## Scalability

Most no code AI platforms are highly scalable. The same AI technology that performs a task for a single user can do the same for hundreds or thousands of users with the same ease, and with minimal or no impact on the timeliness or quality of results. This allows organisations to make quick modifications to scale up or down, as required by their evolving business goals.

# The Impact of No Code on Conversational AI

Conversational messaging and conversational SMS are already making waves in marketing, sales, customer support, self-service, promotions, advertising, and many other areas of business-to-customer communications. The no code AI movement is helping to accelerate the proliferation and ubiquity of conversational AI chatbots.

With no code AI tools, businesses can roll out customised, on-brand conversational messaging solutions quickly and efficiently, that too at a fraction of the cost of coded AI solutions that need to be built from scratch.



In addition, the use of such tools to develop chatbots and conversational assistants allows for:

- **Rapid prototyping:** Organisations can go from design to working prototype to deployment-ready solutions in a matter of days, rather than weeks or months
- **Low barriers to entry:** Since no-code tools require no programming knowledge or data science skills, users can get started with them without hurdles or delays
- **On-the-fly changes:** Users can make any required changes to the chatbot's workflow, script, etc. without needing to ask technical experts for help



- › **Greater organisational control:** Companies can easily make updates within the tool to improve the quality of their conversational messaging
- › **More relevant, customer-focused chatbots and virtual assistants:** The conversational AI assistant can be effortlessly designed by the best people placed to understand customers' needs, motivations and pain points, e.g. the support team, marketers, sales representatives, conversation designers, etc.

With visual, user-friendly no code AI solutions, almost anyone can design a customer-focused conversational AI chatbot. Moreover, such tools support a wide variety of chatbots for multiple use cases – from simple data collectors and FAQ bots, to complex conversational workflow managers. And as they fuel innovation in the conversational messaging space, no code AI tools also lower development costs, and make conversational AI technology more accessible to more companies. This can be a huge advantage for smaller establishments lacking the technical depth and skills required to create customised, conversational AI chatbots from scratch.

## Conclusion

In the beginning of this guide, we addressed the most basic question that most people have about no code AI: what is no code AI? We also unpacked the differences between rule-based AI and cognitive AI – information that set the stage for better understanding no code AI. In the latter part of the guide, we explored how no code AI algorithms work, and also highlighted the (many) benefits of no code AI builders.

No code AI tools and solutions level the AI playing field. They reduce the entry barriers for businesses looking to adopt AI and machine learning in their processes. With such solutions, they can not only create and deploy AI models quickly and at a low cost, but they can also leverage these models to make accurate predictions, accelerate innovation, improve business decision-making, and deliver better experiences to customers and other stakeholders. The field of no code AI is still emerging. But considering the enthusiasm with which companies are embracing no code AI tools, it's obvious that the technology and the approach behind such tools are here to stay.

Gupshup is a fast-growing player in the conversational AI space. We design and deliver bespoke solutions that enable organisations to deploy conversational messaging chatbots, conversational SMS and messaging APIs to elevate their customer communications. All our messaging platforms and bot-builders are low-code or no code to simplify adoption and speed up time-to-value. Explore our website to know more.