**Artificial Intelligence For Dummies Cheat Sheet**

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**From The Book:**[Artificial Intelligence For Dummies](https://www.dummies.com/book/technology/information-technology/ai/general-ai/artificial-intelligence-for-dummies-281623/)

Artificial intelligence (AI) is a technology that has grabbed a lot of attention in movies, books, products, and in a slew of other places. Often, vendors equate AI with *smartness*: You buy a smart device to obtain a device with an AI, even though smart devices sometimes are smart only in that they offer connectivity, not AI.

Many products are hyped to contain AI that sometimes doesn’t even work. Some people, of course, want to grab headlines by telling mistruths or offering misconceptions about AI.

This Cheat Sheet offers you some interesting insights into why the mundane is actually where you see AI most often. Yes, AI is being put to some amazing uses as well, but vendors often misrepresent these applications to the point that no one really knows how much is real and how much is the result of someone’s vivid imagination.

**The 7 kinds of intelligence**

Humans demonstrate seven forms of intelligence, which help distinguish humans from other species and from artificial intelligence (AI).

An awareness of these kinds of intelligence helps you see how humans will always excel over AI. Many people fear that AI will take over the world and eventually replace people.

Yes, AI can become quite smart in a certain intelligence area, but not “human smart;” an AI can never demonstrate certain forms of intelligence because we don’t truly understand these forms ourselves.

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| **Type** | **Simulation Potential** | **Human Tools** | **Description** |
| Visual-spatial | Moderate | Models, graphics, charts, photographs, drawings, 3-D modeling, video, television, and multimedia | Physical environment intelligence used by people like sailors and architects (among many others). In order to move at all, humans need to understand their physical environment — its dimensions and characteristics. Every robot or portable computer intelligence requires this capability, but the capability is often difficult to simulate (as with self-driving cars) or less than accurate (as with vacuums that rely as much on bumping as they do on moving intelligently). |
| Bodily-kinesthetic | Moderate | Specialized equipment and real objects | Body movements, such as those used by a surgeon or a dancer, require precision and body awareness. Robots commonly use this kind of intelligence to perform repetitive tasks, often with higher precision than humans, but sometimes with less grace. It’s essential to differentiate between human augmentation, such as a surgical device that provides a surgeon with enhanced physical ability, and true independent movement. The former is simply a demonstration of mathematical capability in that it depends on the surgeon for input. |
| Creative | None | Artistic output, new patterns of thought, inventions, new kinds of musical composition | Creativity is the act of developing a new pattern of thought that results in unique output in the form of art, music, and writing. A truly new kind of product is the result of creativity. An AI can simulate existing patterns of thought and even combine them to create what appears to be a unique presentation but is really just a mathematically based version of an existing pattern. In order to create, an AI would need to possess self-awareness, which would require intrapersonal intelligence (explained later in the table). |
| Interpersonal | Low to Moderate | Telephone, audio conferencing, video conferencing, writing, computer conferencing, email | Interacting with others occurs at several levels. The goal of this form of intelligence is to obtain, exchange, give, and manipulate information based on the experiences of others. Computers can answer basic questions based on keyword input, not an understanding of the question. The intelligence occurs while obtaining information, locating suitable keywords, and then giving information based on those keywords. Cross-referencing terms in a lookup table and then acting upon the instructions provided by the table demonstrates logical intelligence, not interpersonal intelligence. |
| Intrapersonal | None | Books, creative materials, diaries, privacy, and time | Looking inward to understand one’s own interests and to set goals based on those interests is currently a human-only kind of intelligence. As machines, computers have no desires, interests, wants, or creative abilities. An AI processes numeric input using a set of algorithms and provides an output; it isn’t aware of anything it does, nor does it understand anything it does. |
| Linguistic | Low | Games, multimedia, books, voice recorders, and spoken words | Working with words is an essential tool for communication because spoken information exchange is far faster than any other form. This form of intelligence includes understanding spoken input, managing the input to develop an answer, and providing an understandable answer as output. In many cases computers can barely parse spoken input into keywords, can’t actually understand the request at all, and output responses that may not be understandable at all. |
| Logical-mathematical | High | Logic games, investigations, mysteries, and brain teasers | Calculating a result, performing comparisons, exploring patterns, and considering relationships are all areas in which computers currently excel. When you see a computer beat a human on a game show, this is the only form of intelligence that you’re actually seeing, out of seven. Yes, you might see small bits of other kinds of intelligence, but this is the focus. Basing an assessment of human versus computer intelligence on just one kind of intelligence isn’t a good idea. |

**Common, real uses for AI**

Two types of confusion arise regarding the use of artificial intelligence in an actual product. The first type relates to the smart device, which merely provides connectivity to a backend application and appears to use an AI.

For example, a smart thermometer might provide connectivity to your smartphone, but it doesn’t rely on an AI to do anything. However, a thermometer that self-programs itself based on how you set the house temperatures does rely on an AI to provide the additional functionality.

The second type of confusion relates to the device that does use AI, but not in a way that’s likely to work. For example, a smart assistant that supposedly helps you make good decisions is doomed to failure because decision-making is outside the purview of an AI’s capabilities.

On the other hand, a smart assistant that helps you locate a restaurant, manages your lighting, and keeps a list of your appointments (ensuring that you don’t have a conflict) will likely work as long as the application has no bugs and you provide appropriate input.

The following table focuses on products that are currently available, relatively autonomous, inexpensive enough for many people to own, and do actually work. They all rely on AI to help you in some way.

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| **Product** | **URL** | **Description** |
| Arterys | <https://arterys.com/> | Performs a cardiac scan in 6 to 10 minutes, rather than the usual hour. Patients don’t have to spend time holding their breath, either. Amazingly, this system obtains several dimensions of data—D heart anatomy, blood-flow rate, and blood-flow direction—in this short time. |
| Clocky | <https://nandahome.com/> | Acts as an alarm clock for those who have a hard time getting up in the morning. The device gives you one chance to snooze, and then it moves in a random direction—forcing you to get out of bed to turn it off. |
| Enlitic | <https://www.enlitic.com/> | Analyzes radiological scans in milliseconds—up to 10,000 times faster than a radiologist. In addition, the system is 50 percent better at classifying tumors and has a lower false negative rate (0 percent versus 7 percent) than humans. |
| Hom-Bot | <http://www.lg.com/us/vacuum-cleaners/lg-CR5765GD> | Vacuums your carpets and floors. This robot has a superior AI, along with a number of intelligent sensors, so it actually avoids bumping into things most of the time. You can also program it to use various cleaning strategies (to ensure that it doesn’t miss anything by cleaning in the same pattern all the time). |
| K’Watch | <http://www.pkvitality.com/ktrack-glucose/> | Provides constant glucose monitoring, along with an app that people can use to obtain helpful information on managing their diabetes. |
| Moov | <https://welcome.moov.cc/> | Monitors both heartrate and 3-D movement. The AI for this device tracks these statistics and provides advice on how to create a better workout. You actually get advice on things like how your feet are hitting the pavement during running and whether you need to lengthen your stride. The point of devices like these is to ensure that you get the sort of workout that will improve health without risking injury. |
| QardioCore | <https://www.getqardio.com/> | Provides an ECG without the use of wires, and someone with limited medical knowledge can easily use it. As with many devices, this one relies on your smartphone to provide needed analysis and make connections to outside sources as needed. |
| Robomow | <https://www.robomow.com/> | Mows your grass. |
| Roomba | <http://www.irobot.com/> | Vacuums your carpets and floors. The robot tends to bump into things rather than see and avoid them, so the AI is extremely basic. A counterpart, Braava, mops your floors, while Mirra cleans your pool. If you want your floors vacuumed and mopped at the same time, you can use Scooba instead. |
| Sentrian | <http://sentrian.com/> | Monitors someone’s blood sugar or other chronic disease statistic, enabling people to use the data to predict illness before the event occurs. By making changes in patient medications and behavior before an event occurs, Sentrian reduces the number of unavoidable hospitalizations, thereby making the patient’s life a lot better and reducing medical costs. |

**Top AI vendors**

Listing all the companies who have something to do with artificial intelligence (AI) would be impossible. The number of companies is vast, and the smaller vendors often go out of business quickly (research is expensive).

Here is a list of the top AI companies that you should keep your eyes on:

* [Amazon](https://www.amazon.com/)
* [Apple](https://www.apple.com/)
* [Baidu](http://ir.baidu.com/phoenix.zhtml?c=188488&p=irol-irhome)
* [Cylance](https://www.cylance.com/)
* [Deloitte](https://www2.deloitte.com/us/en.html)
* [Electronic Arts](https://www.ea.com/)
* [Facebook](https://www.facebook.com/)
* [Google](https://www.google.com/)
* [IBM](https://www.ibm.com/)
* [Intel](https://www.intel.com/)
* [LinkedIn](https://www.linkedin.com/)
* [Lockheed Martin](https://www.lockheedmartin.com/)
* [Microsoft](https://www.microsoft.com/)
* [MITRE](https://www.mitre.org/)
* [NASA](https://www.nasa.gov/)
* [NVidia](http://www.nvidia.com/)
* [Sizmek](https://www.sizmek.com/), originally Rocket Fuel
* [Sentient Corporation](https://sentientscience.com/)
* [Tesla](https://www.tesla.com/)
* [Uber](https://www.uber.com/)

**Top AI industries**

Not all industries are using artificial intelligence. Some have a wait-and-see attitude when it comes to AI because the technology still hasn’t completely proven its worth, and the owners of these industries remember the AI winters of the past.

In addition, AI research focuses on specific industries because of how it actually works. It requires lots of data as input, relies on algorithms to process that data, and then provides an output that, with luck, matches the requirements.

Some industries can’t even meet these basic requirements, and far more exist to make an AI completely usable. Here are the top AI industries by investment in research and use:

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| **Investment Area** | **Application Types** | **Percentage** |
| Computer-related industries | Hardware, software, and IT | 33.33 |
| Communications | Telecommunications, Internet, and online media | 14.30 |
| Business services | Marketing, advertising, management consulting, financial services, and banking | 8.48 |
| Industrial goods | Automotive, electrical manufacturing, electronic manufacturing, and semiconductors | 5.72 |
| Consumer goods | Retail, consumer electronics, and entertainment | 5.21 |
| Research | Online searches | 3.37 |
| Health care | Hospital, health management, health insurance | 2.86 |
| Government | Administration | 2.04 |
| Resource management | Oil and energy | 1.33 |