

# Data driven decisions & AI

- what's the future?

Healthcare Management Conference  
May 2019

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# Why the topic?

The screenshot shows the CB Insights Research Briefs website. The header includes the CB Insights logo and navigation links for Platform, Services, Customers, About, and Login. The main navigation bar lists categories like Industries, Geographies, Investments & Exits, Infographics, Reports, Briefings, and Expert Intelligence, along with a search icon and a 'SIGN UP FOR A FREE TRIAL' button. A list of research briefs is visible, including one about the Michael J. Fox Foundation and another about Gilead Sciences. The featured article is titled 'healthcare dominates the 2019 AI 100', dated February 7, 2019, and includes social media sharing icons and a link to the Digital Health Newsletter Archive. A sidebar on the left contains a sign-up form with the text 'WHERE IS THIS DATA COMING FROM? Start your free trial today' and a 'SIGN UP' button. The main content area begins with the text 'AI trends and AI 100. Healthcare 2019 survey results. Verily business relationships' and a sub-header 'Do these AI startups spark joy?'. The article text starts with 'Hi there,' and discusses the NExTT framework.

CBINSIGHTS Platform Services Customers About Login

## RESEARCH BRIEFS

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Foundation  
Deepen Parkinson's Understanding through Digital Health Tools. In addition to this study, Michael J. Fox Foundation and Verily Life Sciences LLC are part...

5/1/2018 Gilead Sciences Client United States Gilead Sciences strikes partnership with Alphabet's Verily 2 📄

Sanofi, Sensile 3 📄

### healthcare dominates the 2019 AI 100

February 7, 2019 [f](#) [t](#) [in](#) [✉](#)  
[Digital Health Newsletter Archive](#)

**WHERE IS THIS DATA COMING FROM?**  
Start your free trial today

Email

**SIGN UP**

AI trends and AI 100. Healthcare 2019 survey results. Verily business relationships

#### Do these AI startups spark joy?

Hi there,

We asked for your opinions on healthcare in 2019. We have a summary of the responses below, but first, [what's next for AI?](#)

The CB Insights NExTT framework looks at the industry adoption and market strength of important AI trends, categorizing them as necessary, experimental, threatening, or transitory (NExTT). The framework educates businesses about emerging trends and guides their decisions in accordance with their comfort with risk.

# 106 STARTUPS TRANSFORMING HEALTHCARE WITH AI

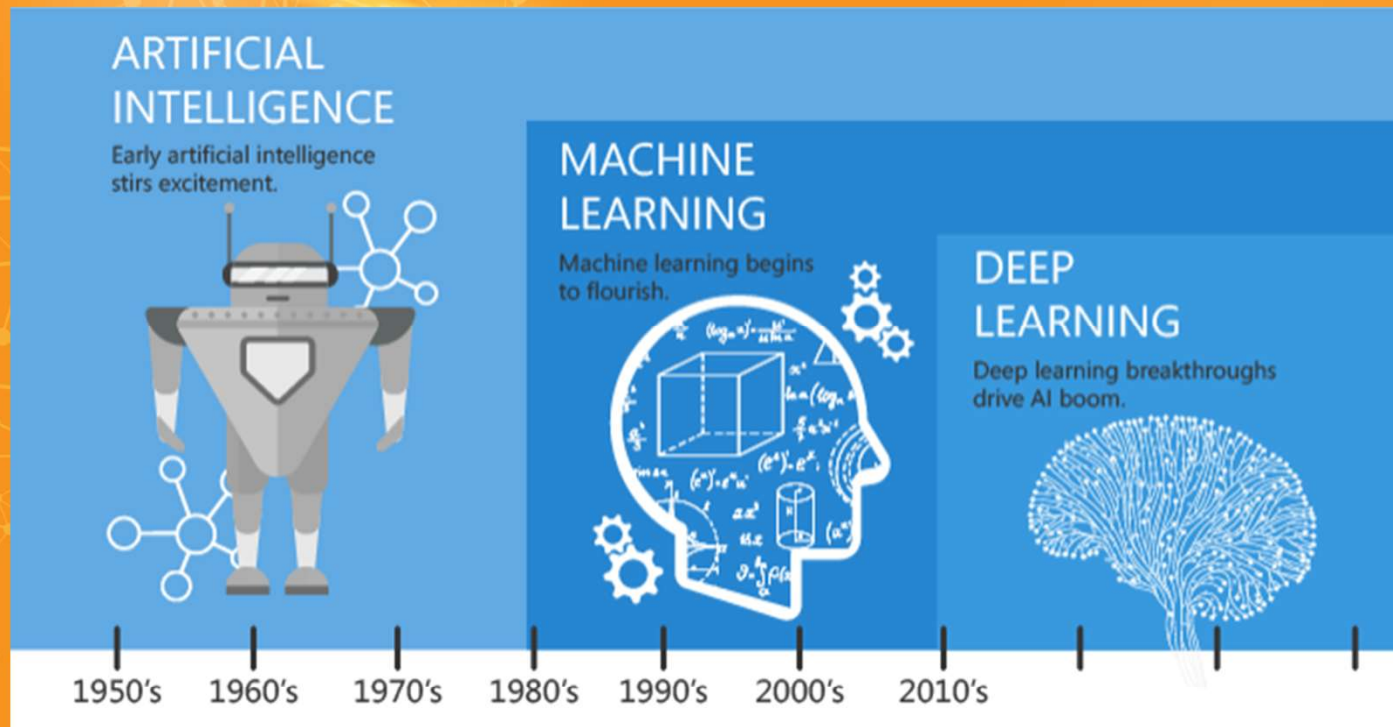


istock.com/hilch

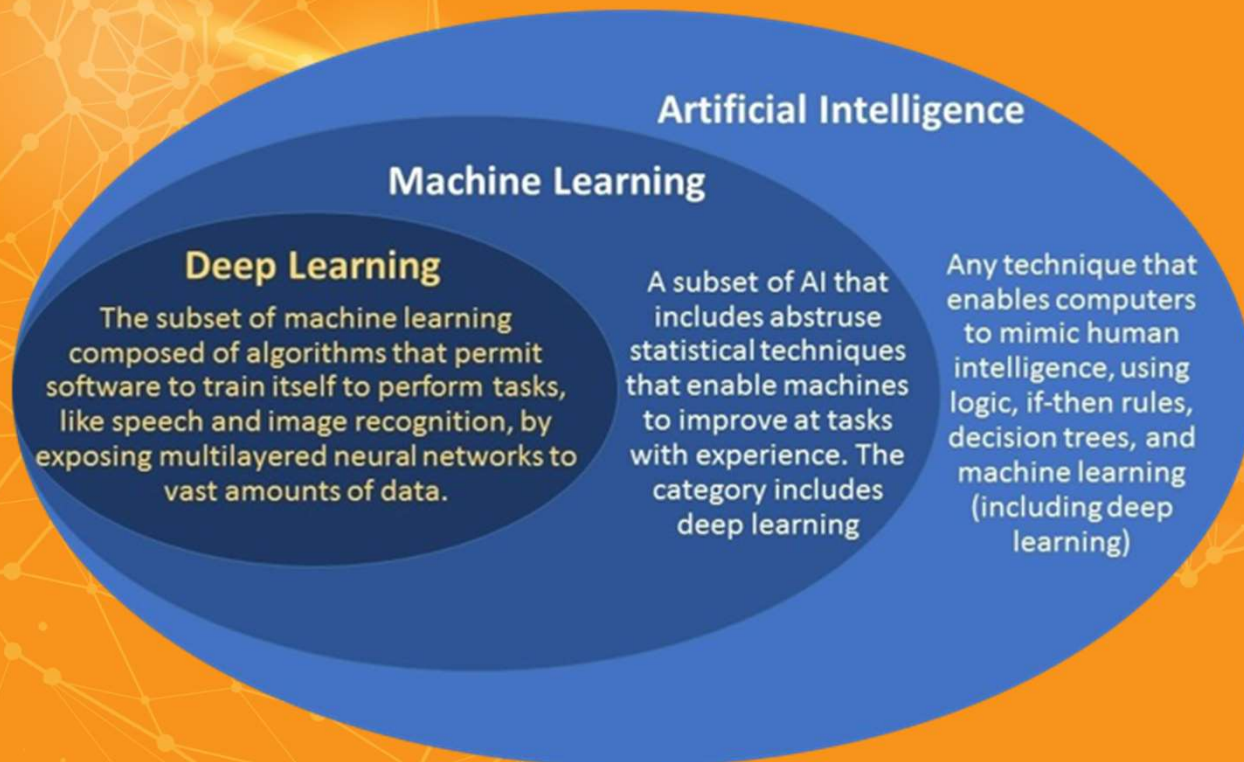
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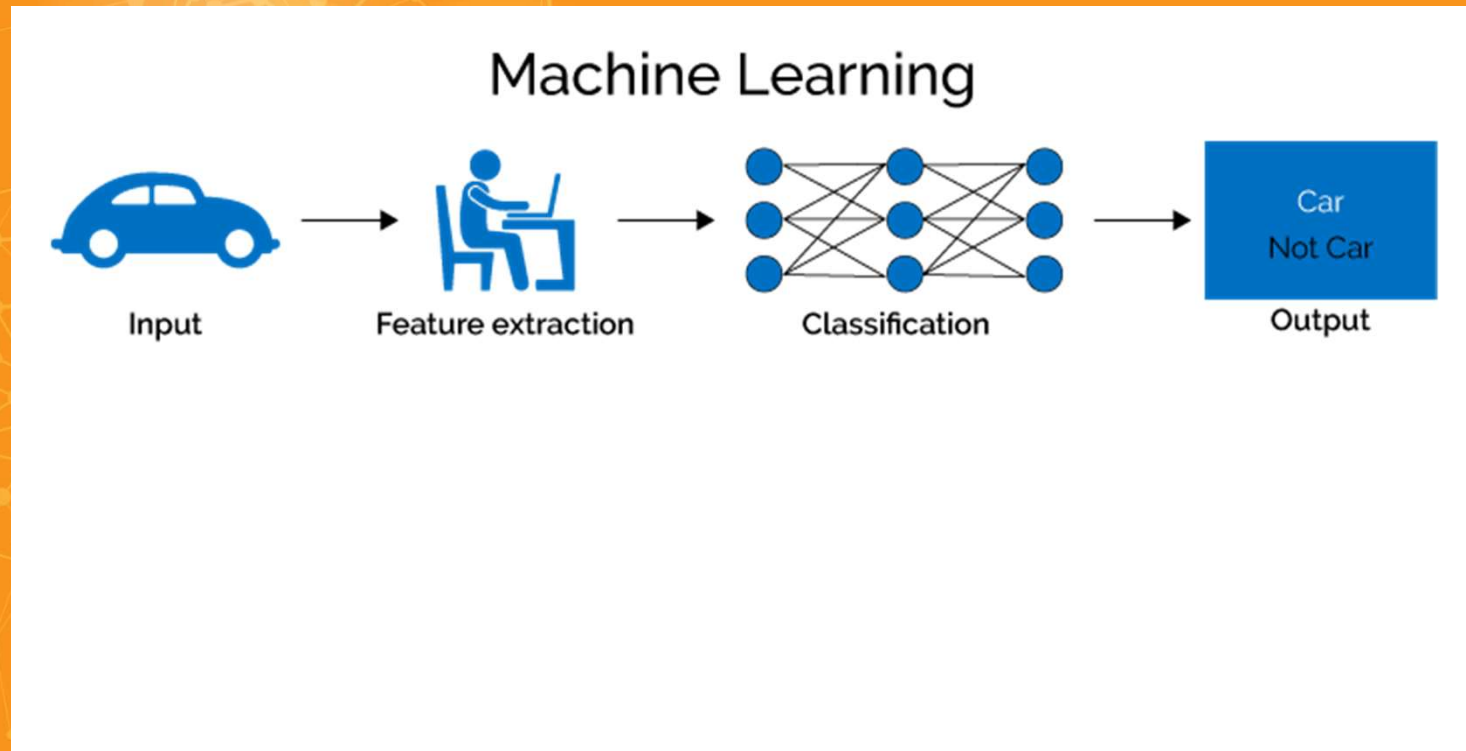
# Artificial Intelligence, Machine Learning, Deep Learning ...



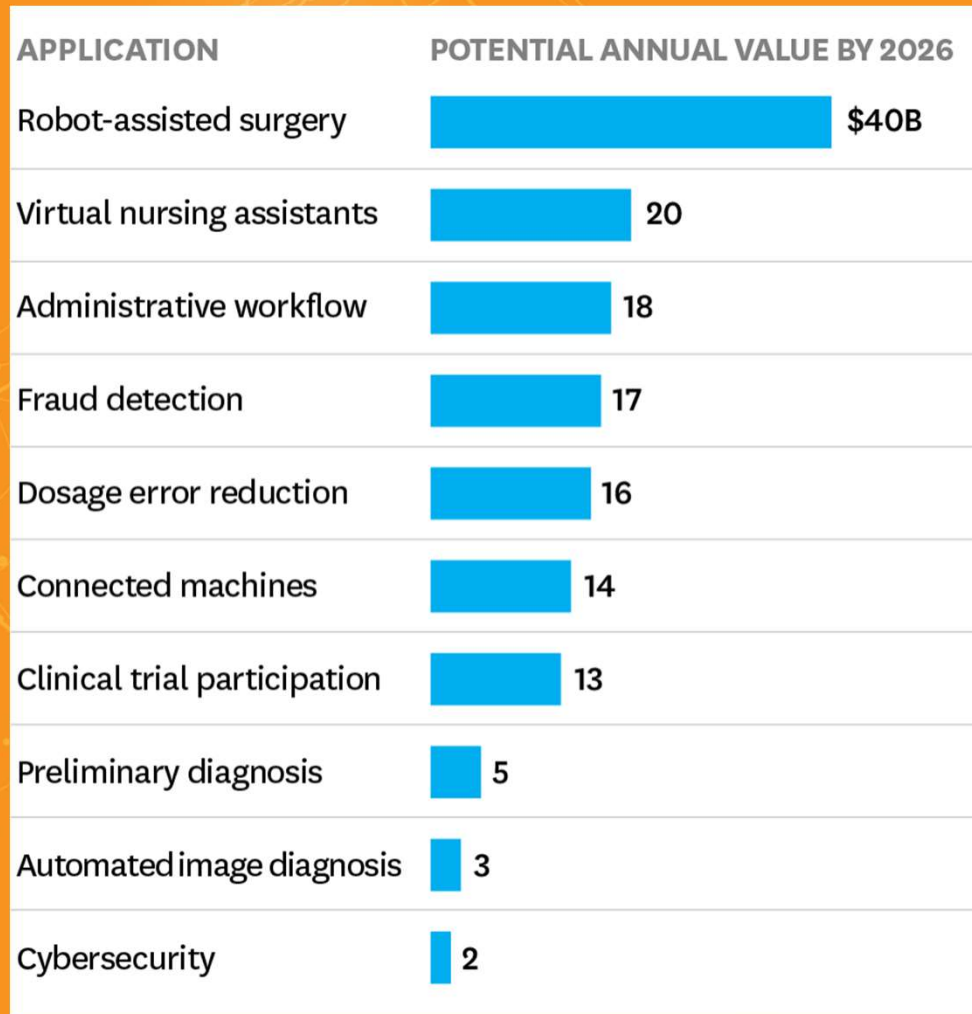
# Artificial Intelligence, Machine Learning, Deep Learning ...



# Machine Learning vs Deep Learning



# Applications of AI in healthcare



Source: Harvard Business Review, May 2018



**AI-driven robots** perform surgery



**AI-powered virtual nurses** offer assistance



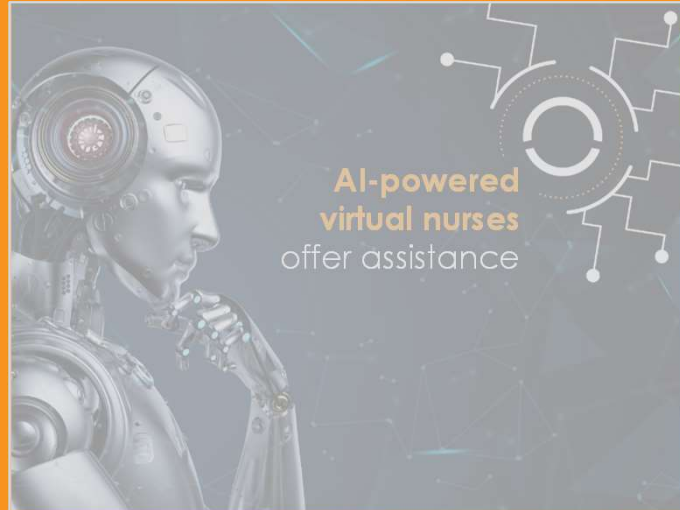
**AI-assisted clinical diagnosis** & decision making



**AI-automated administrative tasks**



**AI-driven  
robots** perform  
surgery



**AI-powered  
virtual nurses**  
offer assistance



**AI-assisted  
clinical diagnosis**  
& decision  
making



**AI-automated**  
administrative  
tasks

*da Vinci*.Surgery



**SURGEON CONSOLE**

Your surgeon sits at the console, controlling the instruments while viewing your anatomy in high-definition 3D.



**PATIENT CART**

Positioned alongside the bed, the patient cart holds the camera and instruments that the surgeon controls from the console.

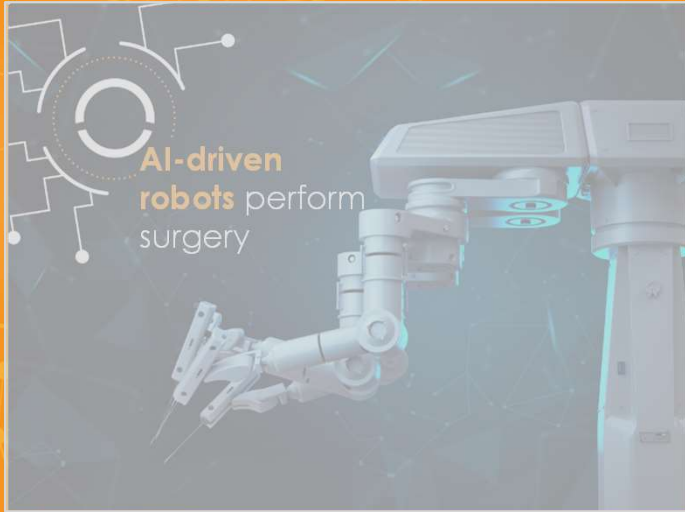


**VISION CART**

The vision cart makes communication between components possible and supports the 3D high-definition vision system.

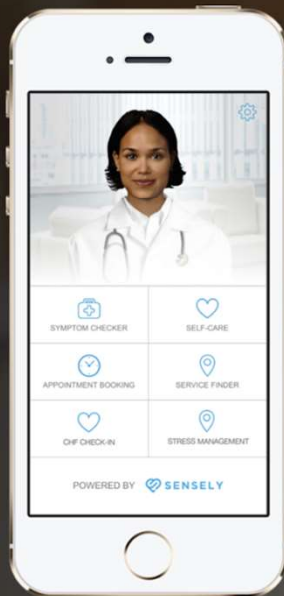
**693,000 surgeries** (2017)

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LET'S TALK MENU



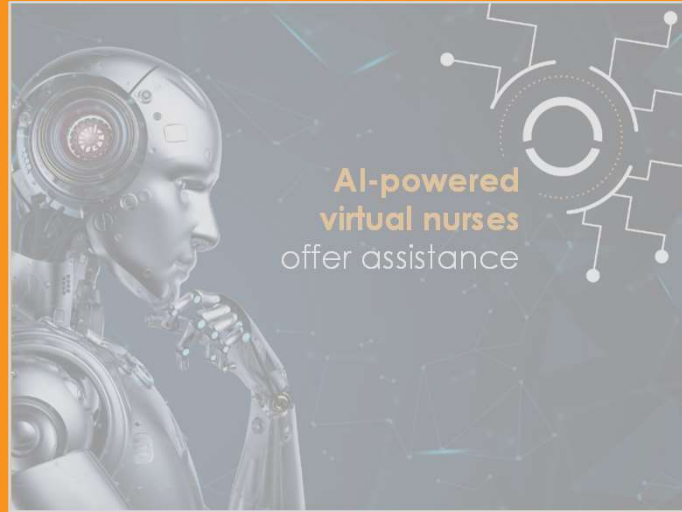
## ENGAGE YOUR MEMBERS. EXTEND YOUR REACH.

Direct your plan members to the insurance services and healthcare resources they need, when they need it. Sensely intelligently connects people with advice and services, enhancing access without compromising empathy.



Following app download, select the "sign in" option, and use "gpdemo" for both the username and password entries.







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# Medical Sieve Radiology Grand Challenge

[feedback](#)

[Overview](#) [Cardiac Imaging](#) [Brain Imaging](#) [Machine Learning](#) [Recent Publications](#)

[CXR Dataset](#)



Browser address bar: <https://www.skinvision.com>

Navigation menu: [SkinVision Service](#) | [Skin Cancer Information](#) | [Stories](#) | [Partners](#) | [Blog](#) | [Try SkinVision](#)

# Your skin looks good. But is it also healthy?

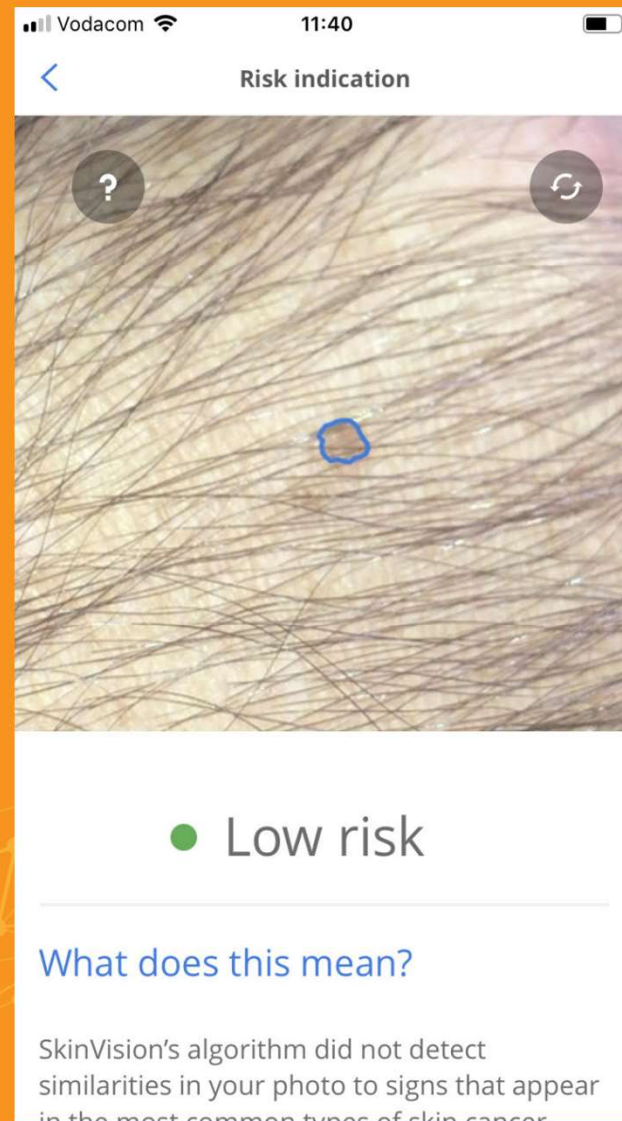
Perform regular self-checks for skin cancer with your phone.

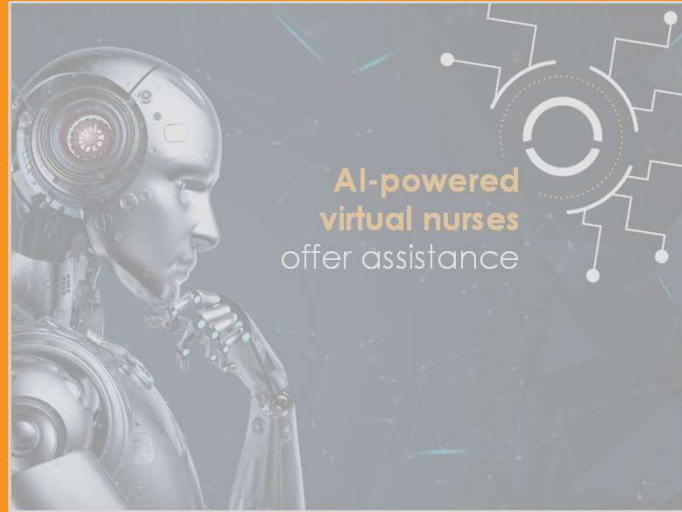
[CHECK YOUR SKIN NOW](#)

Available for IOS and Android

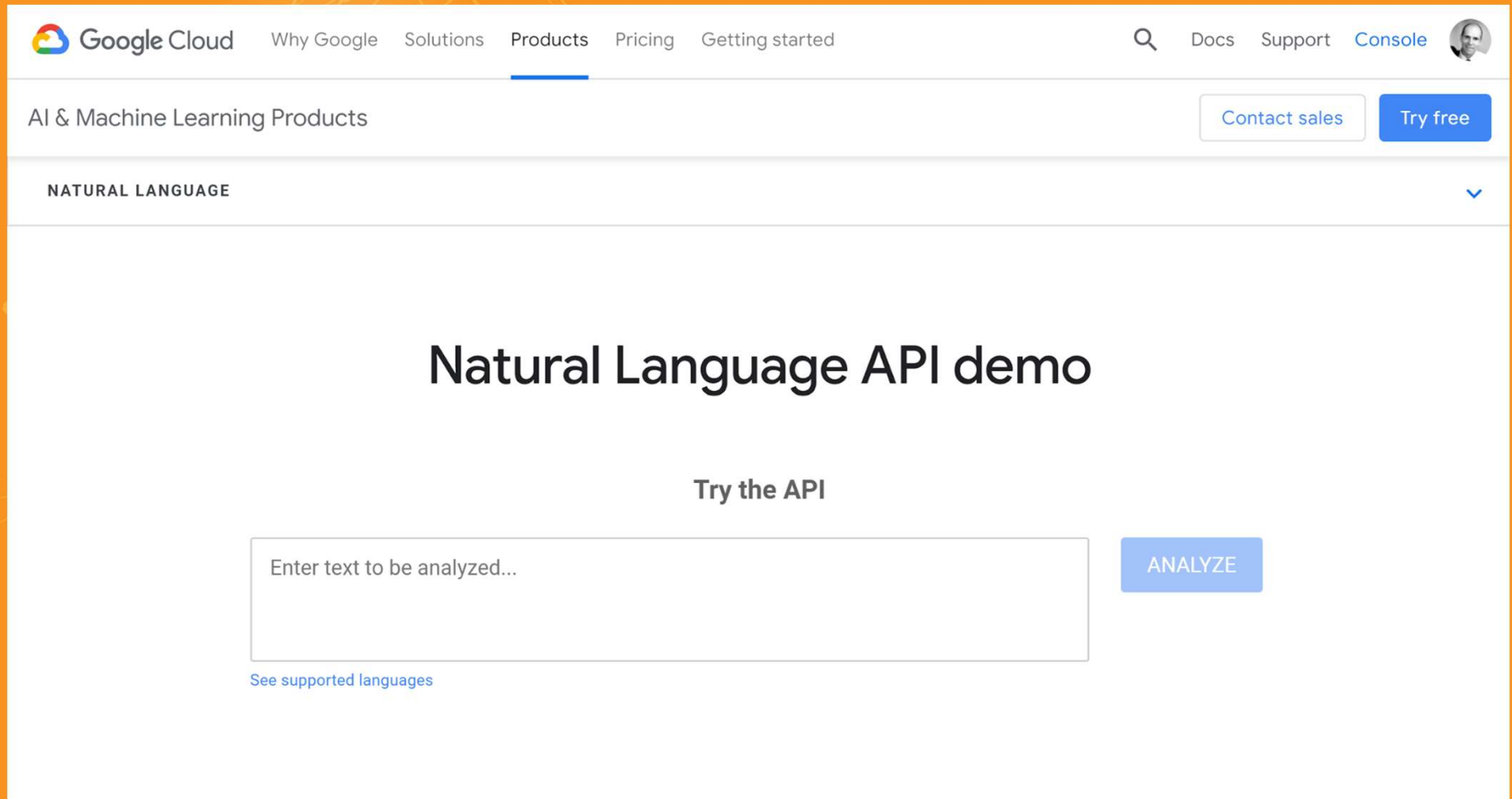
Keep phone steady

Your skin can change over time for many





# From voice to text to workable EHRs



The screenshot shows the Google Cloud website's navigation bar with links for 'Why Google', 'Solutions', 'Products', 'Pricing', and 'Getting started'. The 'Products' link is underlined. On the right, there are links for 'Docs', 'Support', and 'Console', along with a search icon and a user profile icon. Below the navigation bar, the page is titled 'AI & Machine Learning Products' with 'Contact sales' and 'Try free' buttons. A 'NATURAL LANGUAGE' category is shown with a dropdown arrow. The main content area features the heading 'Natural Language API demo' and a 'Try the API' button. Below this is a text input field with the placeholder 'Enter text to be analyzed...' and an 'ANALYZE' button. A link 'See supported languages' is located below the input field.

Google Cloud Why Google Solutions **Products** Pricing Getting started

AI & Machine Learning Products [Contact sales](#) [Try free](#)

NATURAL LANGUAGE ▼

## Natural Language API demo

[Try the API](#)

Enter text to be analyzed... [ANALYZE](#)

[See supported languages](#)

Rewriting Life

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# AI can't replace doctors. But it can make them better.

A machine can collate environmental data, genetic data, and patient history way better than I can.

by **Rahul Parikh**

Oct 23, 2018

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NATURAL LANGUAGE



# Natural Language API demo

Try the API

But for physicians like me in primary care, managing 1,500 to 2,000 patients, AI presents an opportunity. I went to medical school to connect with people and make a difference. Today I often feel like an overpaid bookkeeper instead, taking in information and putting it back to patients, prescribing drugs and adjusting doses.

[See supported languages](#)

 RESET

### AI & Machine Learning Products

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#### NATURAL LANGUAGE

Entities

Sentiment

Syntax

Categories

But for **physicians**<sub>2</sub> like me in **primary care**<sub>3</sub>, managing **1,500**<sub>23</sub> to **2,000**<sub>24</sub> **patients**<sub>1</sub>, **AI**<sub>8</sub> presents an **opportunity**<sub>4</sub>. I went to **medical school**<sub>9</sub> to connect with **people**<sub>13</sub> and make a **difference**<sub>17</sub>. Today I often feel like an overpaid **bookkeeper**<sub>14</sub> instead, taking in **information**<sub>5</sub> and spitting it back to **patients**<sub>10</sub>, prescribing **drugs**<sub>12</sub> and adjusting **doses**<sub>11</sub>, ordering **tests**<sub>15</sub>. But **AI**<sub>7</sub> in the **exam room**<sub>16</sub> opens up the **chance**<sub>19</sub> to recapture the **art**<sub>21</sub> of **medicine**<sub>22</sub>. It could let me get to know my **patients**<sub>6</sub> better, learn how a **disease**<sub>18</sub> uniquely affects them, and give me time to coach them toward a better **outcome**<sub>20</sub>.

1. **patients**

Saliency: 0.19

PERSON

2. **physicians**

Saliency: 0.15

PERSON

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NATURAL LANGUAGE

Entities

Sentiment

Syntax

Categories

Document and Sentence Level Sentiment

Entire Document

But for physicians like me in primary care, managing 1,500 to 2,000 patients, AI presents an opportunity.

I went to medical school to connect with people and make a difference.

Today I often feel like an overpaid bookkeeper instead, taking in information and spitting it back to patients, prescribing drugs and adjusting doses, ordering tests.

But AI in the exam room opens up the chance to recapture the art of medicine.

It could let me get to know my patients better, learn how a disease uniquely affects them, and give me time to coach them toward a better outcome.

Score Magnitude



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NATURAL LANGUAGE

Entities

Sentiment

Syntax

Categories

- Dependency
- Parse label
- Part of speech
- Lemma
- Morphology





## AI & Machine Learning Products

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### NATURAL LANGUAGE

Entities

Sentiment

Syntax

Categories

**/Health/Medical Facilities & Services**

Confidence: 0.65

[See a complete list of content categories.](#)



Thank you



Rewriting Life

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