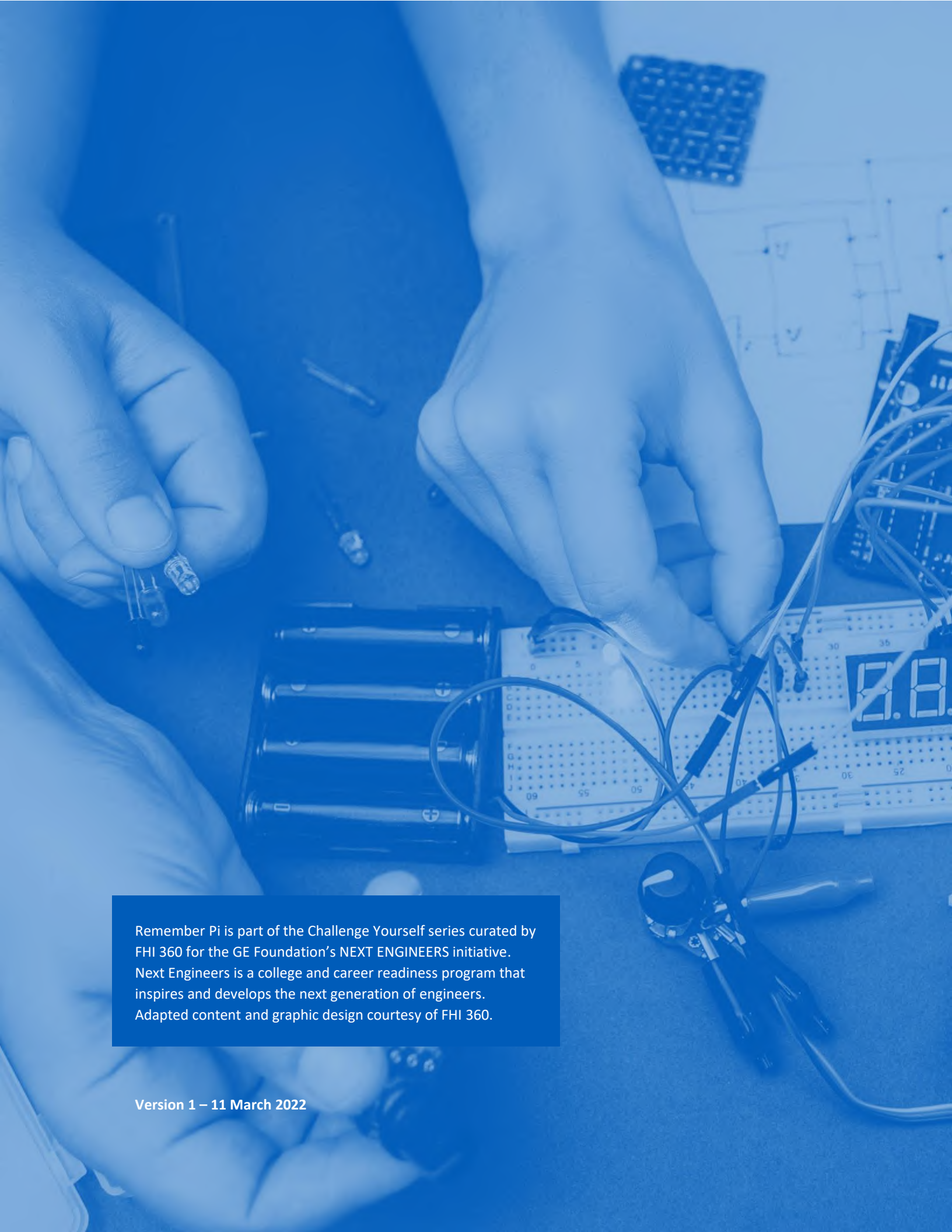
NEXT ENGINEERS

CHALLENGE YOURSELF

Pi Day: Remember Pi

All Engineering

GE Foundation



Remember Pi is part of the Challenge Yourself series curated by FHI 360 for the GE Foundation's NEXT ENGINEERS initiative. Next Engineers is a college and career readiness program that inspires and develops the next generation of engineers. Adapted content and graphic design courtesy of FHI 360.

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Remember Pi

NERD OUT

Who remembered the π?

π is not a very big number. It is only a little greater than three (about 3.14). However, π is a very long number, a very long number indeed. In fact, π is so long that it never ends, and it never repeats itself.

With the help of modern computers, we have been able to compute the first 62.8 trillion digits of π[1]. If you were to say one digit per second, it would take you about 2 000 000 years to recite all these digits.

Remembering and reciting all these digits would be impossible. However, remembering as many digits of π as possible has become a fierce contest. The *Pi World Ranking List* (https://www.pi-world-ranking-list.com/?page=lists&category=pi) lists over 2 300 official records. According to it, the current record is held by Suresh Kumar Sharma, who recited an incredible 70 030 digits of π in 17 hours and 14 minutes. That is an average of just over 1 digit per second.

There are other unofficial record holders like Akira Haraguchi from Japan, who claims to have memorized 111 700 digits[2]. Whoever is the real record holder, these are very impressive feats.

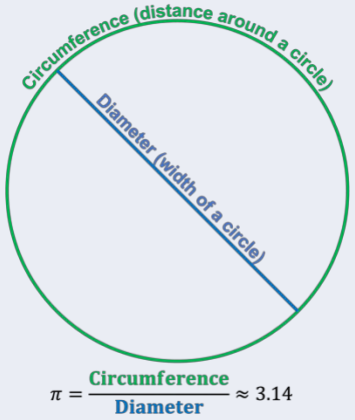
How much π can you remember?

Memorizing the digits of π is not just something adults do. Six-year-old Maurice Dickinson has been able to memorize 314 digits. Have a look at her story by watching *Six-year-old Maurice Dickinson enumerates the first 314 numbers of π* (1:10) (https://www.youtube.com/watch?v=OC0bk8rHcRQ).

All this begs the question – how many digits of π can you remember? Watch *The Pi Song (Memorize 100 Digits Of π)* (1:14) (https://www.youtube.com/watch?v=3HRkKznJoZA) to help you get started memorizing the first 100 digits.

WHAT IS PI?

Pi (represented by the symbol π) is the ratio of the length of a circle's circumference to its diameter and has a value of approximately 3.14.



[1] https://www.popularmechanics.com/science/math/a37329769/supercomputer-calculated-pi-to-record-breaking-628-trillion-digits/

[2] https://www.theguardian.com/science/alexs-adventures-in-numberland/2015/mar/13/pi-day-2015-memory-memorisation-world-record-japanese-akira-haraguchi

For reference, the first 100 digits of π are:

3.1415926535 8979323846 2643383279 5028841971 6939937510 5820974944
5923078164 0628620899 8628034825 3421170679

If you want to go further than 100 digits and need a handy list of the first million digits of π, check out *1 Million Digits of Pi* (https://www.piday.org/million/).

Why not record yourself reciting as many digits of π as possible from memory? Then, share the video on social media with **#NextEngineersDIY**.

HAVE A THINK

If NASA only uses the first 15 digits of π to launch its rockets into space, what do you think is the point of calculating 62.8 trillion digits with a supercomputer?

Read *A Supercomputer Just Calculated Pi to a Record-Breaking 62.8 Trillion Digits. So What?* (https://www.popularmechanics.com/science/math/a37329769/supercomputer-calculated-pi-to-record-breaking-628-trillion-digits/) for some ideas.