



How to Survive the Robots

Professional Development 2.0: A Business
Strategy



Kim Crayton

@KimCrayton1
#causeascene

Credentials

- Over 25 years of experience working with learners of various ages and abilities, in various environments, in the development of various sets of knowledge and skills
- Masters of Training and Development
- Doctors of Business Administration - Technology Entrepreneurship
- Successful Strategies For Increasing Organizational Knowledge Sharing
- How To Leverage Organizational Culture For Competitive Advantage

Disruption

While many of you view disruption as an innovative product or service, my aim is to disrupt your thinking, to challenge the status quo, and to #causeascene.



As we move towards automation,
machine learning, and artificial
intelligence, programmers need to
figure out ways to develop and
leverage an essential, yet often
overlooked skill set...

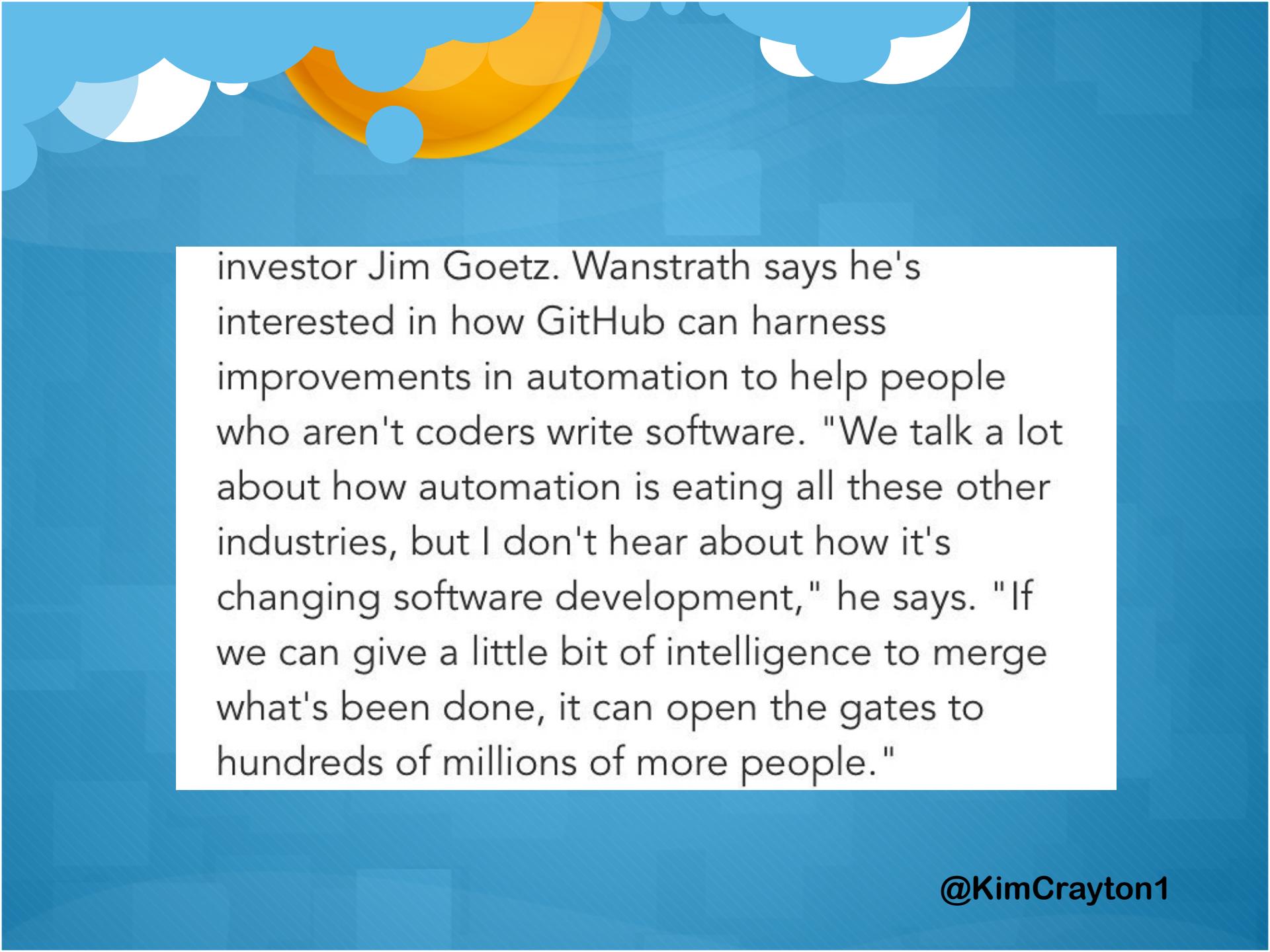
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Ppl who argue 4 the exclusion of "other" fail 2 realize that they r equally a member of "other" when it comes 2 biz.



What jobs will be left in a robotic nation?
As autonomous vehicles and machines becom...
cbsnews.com

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investor Jim Goetz. Wanstrath says he's interested in how GitHub can harness improvements in automation to help people who aren't coders write software. "We talk a lot about how automation is eating all these other industries, but I don't hear about how it's changing software development," he says. "If we can give a little bit of intelligence to merge what's been done, it can open the gates to hundreds of millions of more people."



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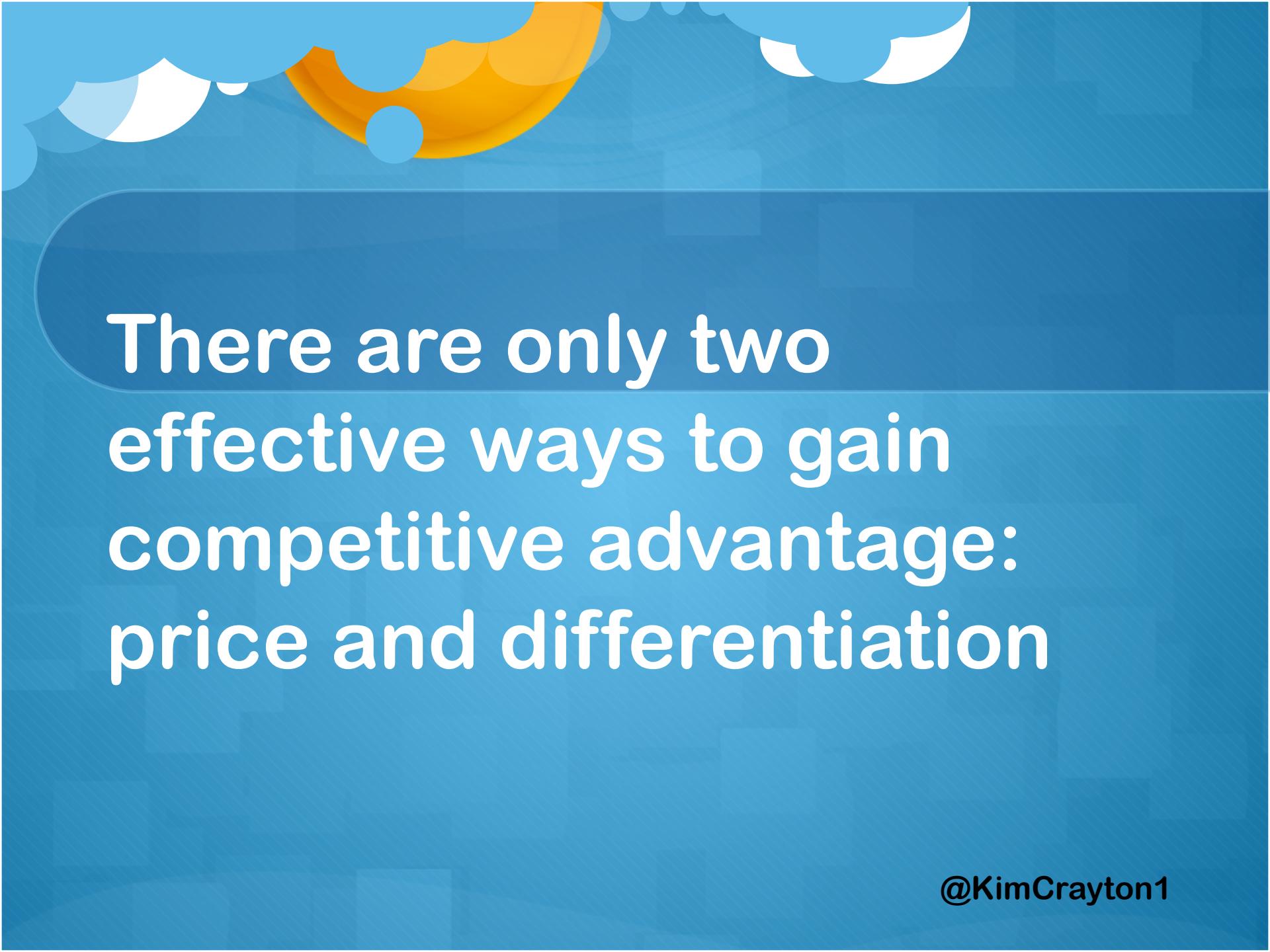
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So how do you compete?

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There are only two
effective ways to gain
competitive advantage:
price and differentiation



Artificial Intelligence will be the master of price

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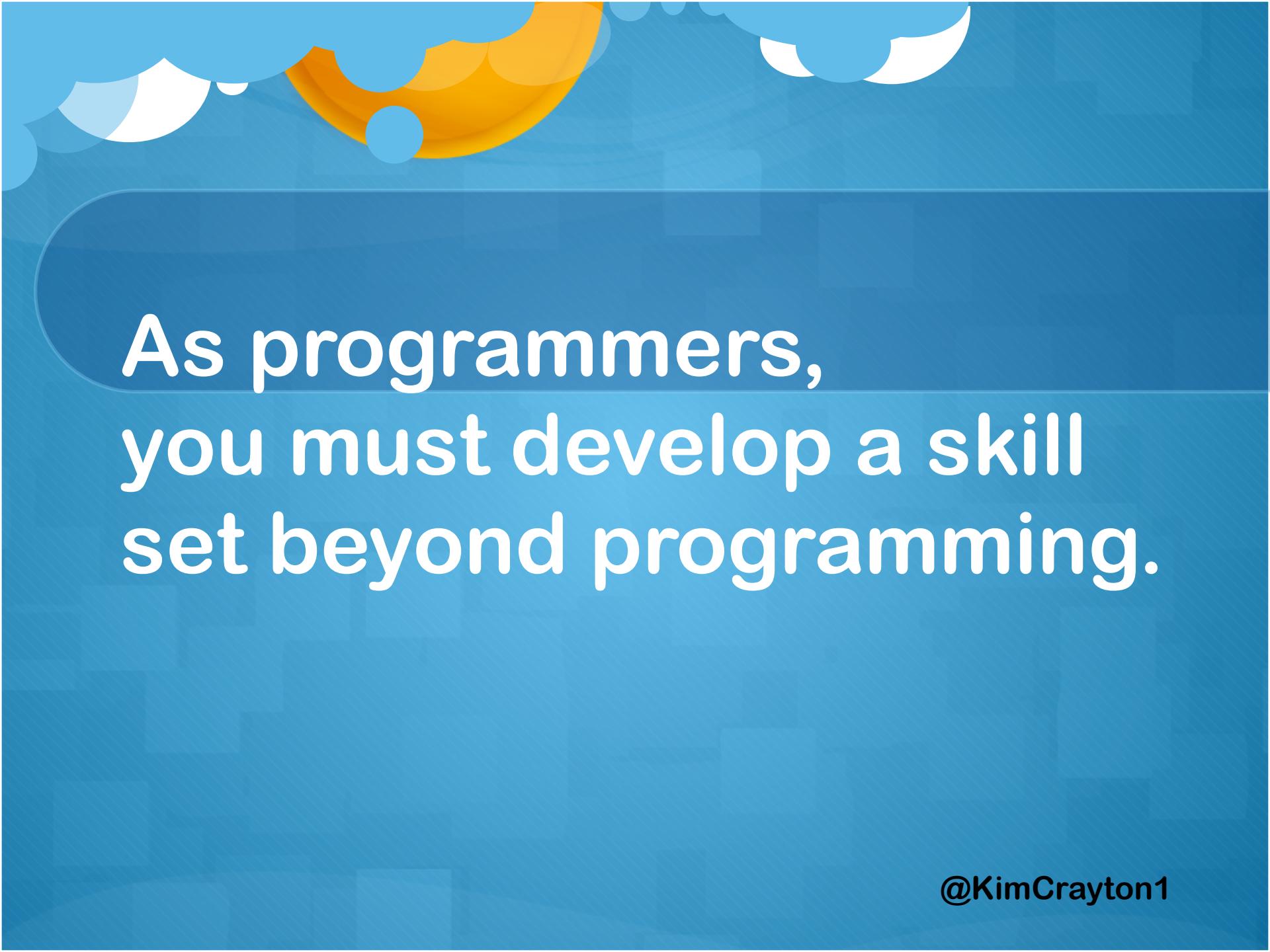


Programmers must
become masters of
differentiation

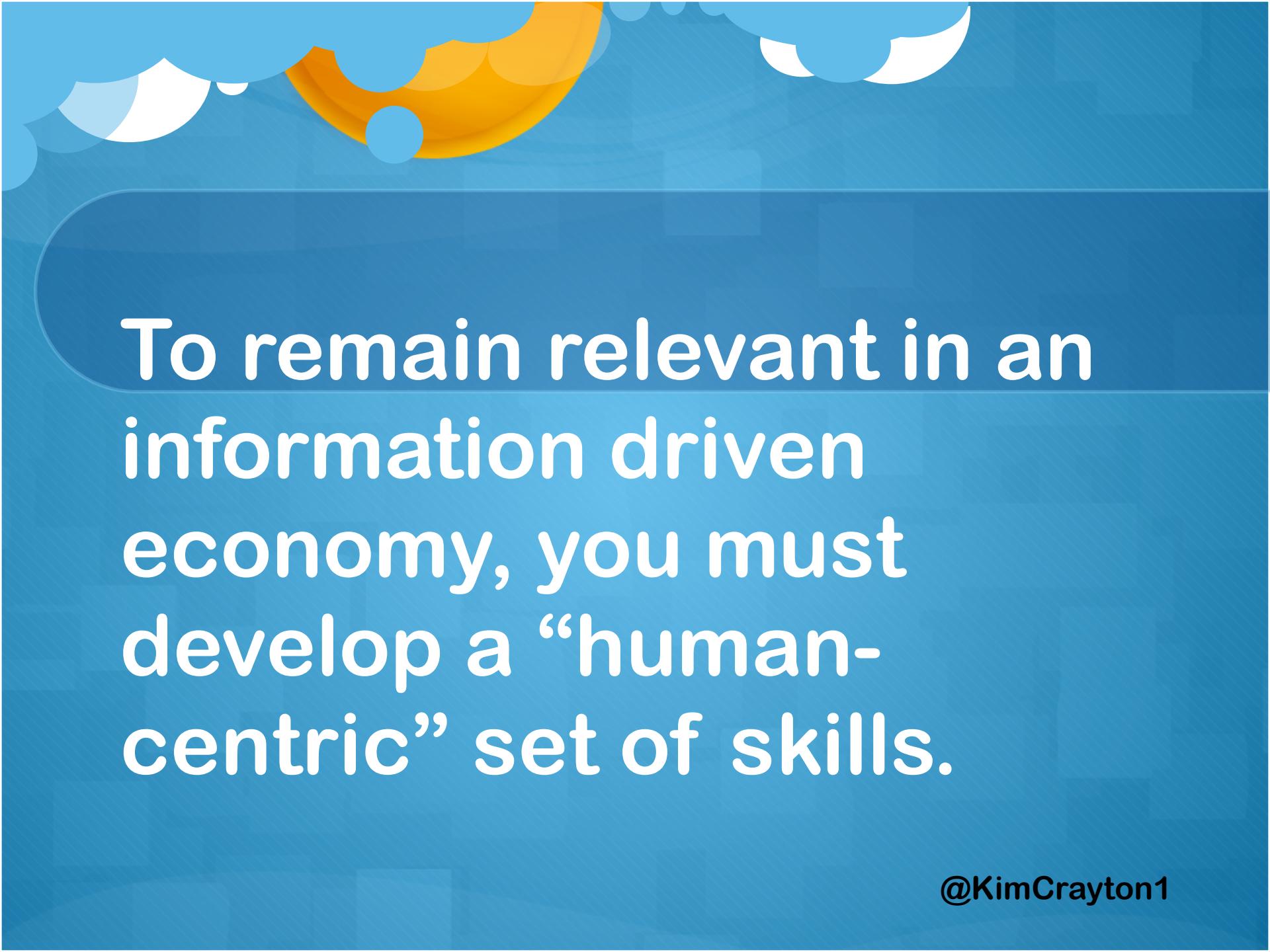


Whether you are working at a enterprise company, are a one person shop or a member of a multi-person team, identifying and marketing your points of differentiation is the only way to ensure your value in an increasingly automated world.

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As programmers,
you must develop a skill
set beyond programming.



To remain relevant in an information driven economy, you must develop a “human-centric” set of skills.



The surprising thing Google learned about its employees – and what it means for today's students

By **Valerie Strauss** December 20, 2017  Email the author

Ad

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In 2013, Google decided to test its hiring hypothesis by crunching every bit and byte of hiring, firing, and promotion data accumulated since the company's incorporation in 1998. Project Oxygen shocked everyone by concluding that, among the eight most important qualities of Google's top employees, STEM expertise comes in dead last. The seven top characteristics of success at Google are all soft skills: being a good coach; communicating and listening well; possessing insights into others (including others different values and points of view); having empathy toward and being supportive of one's colleagues; being a good critical thinker and problem solver; and being able to make connections across complex ideas.

Project Aristotle, a study released by Google this past spring, further supports the importance of soft skills even in high-tech environments. Project Aristotle analyzes data on inventive and productive teams. Google takes pride in its A-teams, assembled with top scientists, each with the most specialized knowledge and able to throw down one cutting-edge idea after another. Its data analysis revealed, however, that the company's most important and productive new ideas come from B-teams comprised of employees who don't always have to be the smartest people in the room.

Project Aristotle shows that the best teams at Google exhibit a range of soft skills: equality, generosity, curiosity toward the ideas of your teammates, empathy, and emotional intelligence. And topping the list: emotional safety. No bullying. To succeed, each and every team member must feel confident speaking up and making mistakes. They must know they are being heard.

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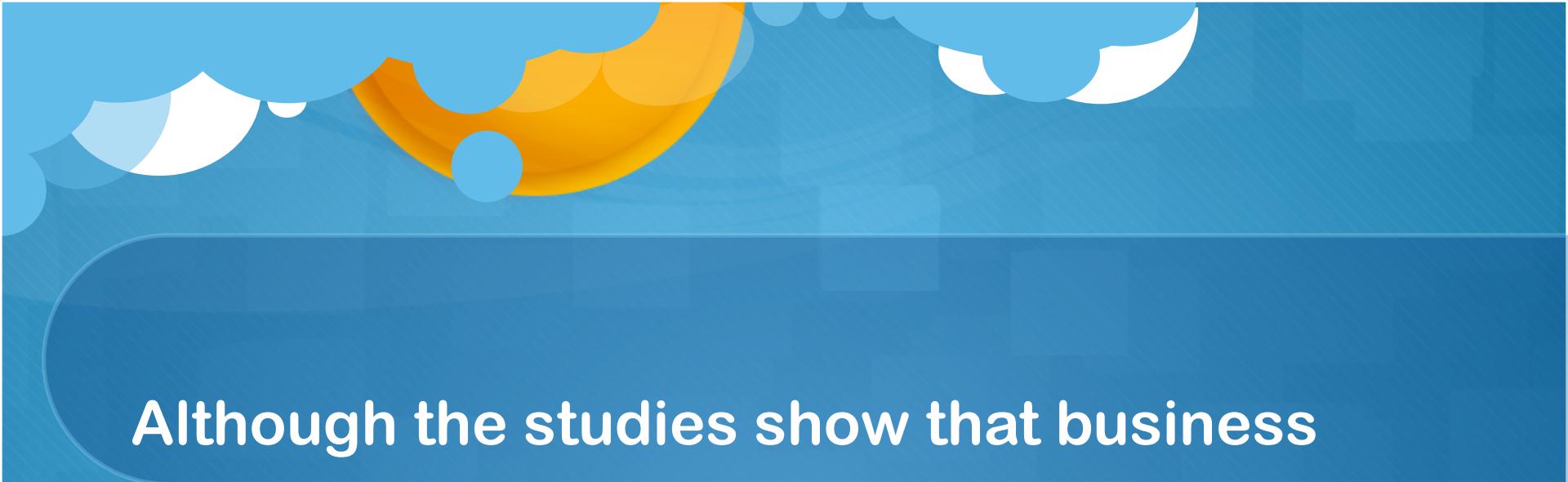


But there's something
missing...

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HARD SKILLS/Technical VS SOFT SKILLS/Non-Technical



Although the studies show that business success requires a set of skills beyond programming, they don't address a major barrier, which is that we will never change how tech does business until we change how we define technical.

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When programming is considered
technical and everything else is non-
technical i.e. “soft skills” it damages
the health and progress of our
communities and organizations.



“Non-technical” content does not hold the same value in the minds and wallets of many members in our communities and organizations, especially decision makers. These skills are often seen as “nice to have” rather than as “must haves”.



It is due to this current, devalued perception of “soft-skills”, that focusing on their development has rarely been apart of any computer science or STEM education.



And our communities and organizations are now experiencing the impact.

tech·ni·cal

/'teknək(ə)l/ 

adjective

1. relating to a particular subject, art, or craft, or its techniques.
"technical terms"
2. of, involving, or concerned with applied and industrial sciences.
"an important technical achievement"

synonyms: **practical, scientific, technological, high-tech**
"an important technical achievement"

tech·nol·o·gy

/tek'nałəjē/ 

noun

the application of scientific knowledge for practical purposes, especially in industry.

"advances in computer technology"

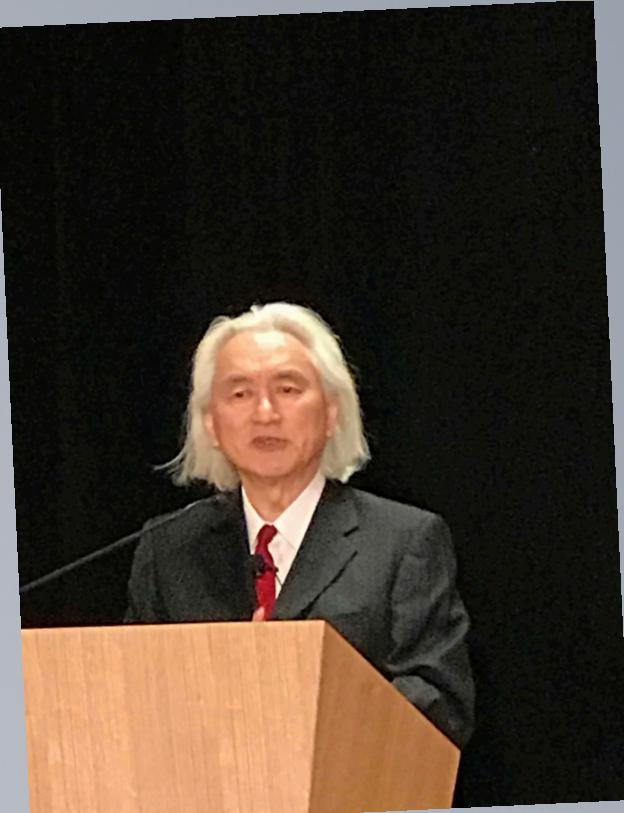
- machinery and equipment developed from the application of scientific knowledge.
- the branch of knowledge dealing with engineering or applied sciences.



April Wensel
@compassioncode

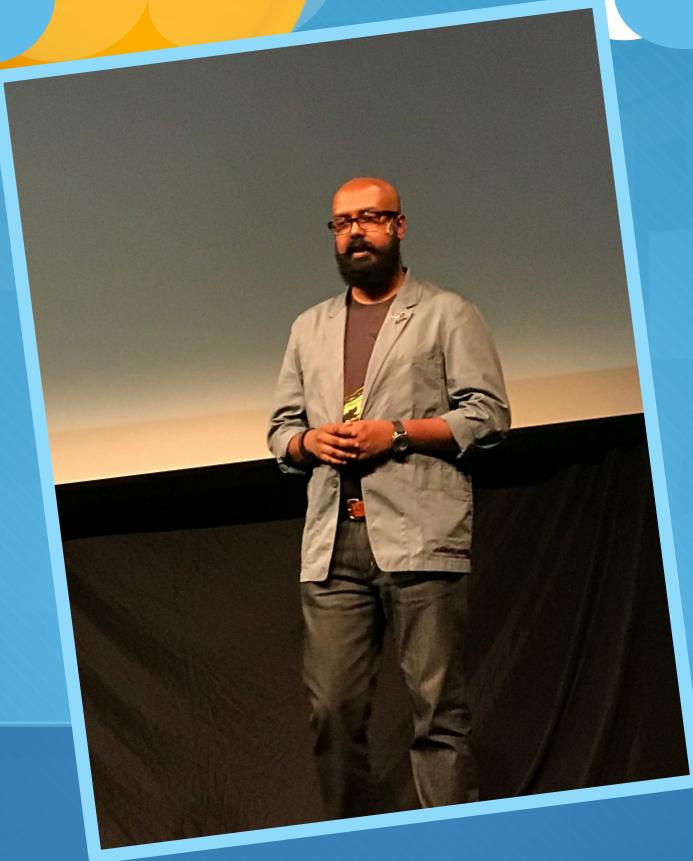
Emotional Intelligence
and the replacement
of the term “soft
skills” with “catalytic
skills”

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Dr. Michio Kaku
@michiokaku

Your goal should be to become an Intellectual Capitalist; being that person with a set of skills that cannot be easily replaced by robots, AI, and machine learning.



At scale, all problems become people problems.

Baishampayan Ghose
@ghoseb

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Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility



Source: Future of Jobs Report, World Economic Forum

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



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None of these skills can
be easily replaced with
current or future
technology.

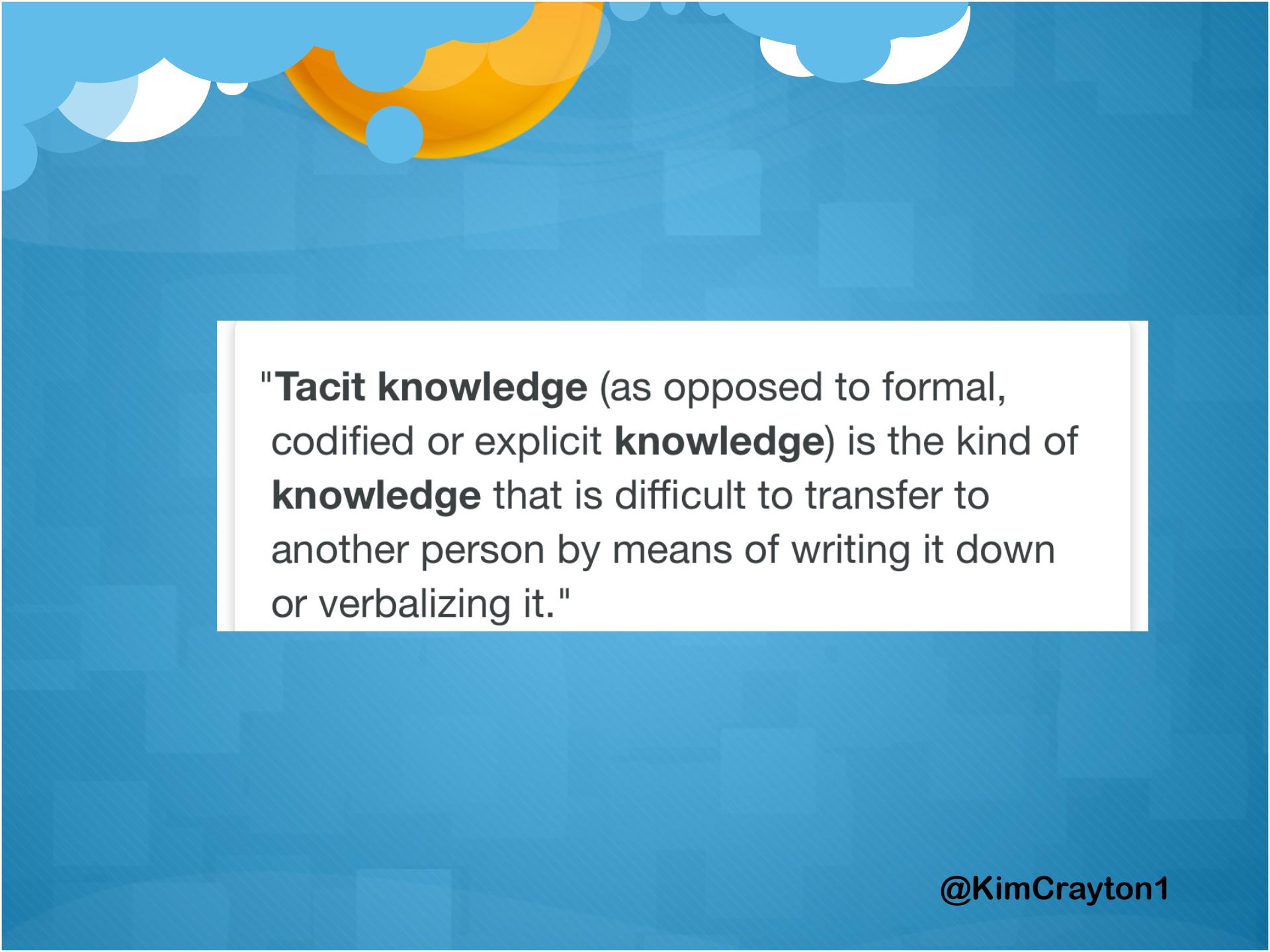


In the Industrial Age the value was put on what one could do. In the Information Age value is placed on what one knows.

"Explicit knowledge is **knowledge** that can be readily articulated, codified, accessed and verbalized. It can be easily transmitted to others. Most forms of **explicit knowledge** can be stored in certain media. The information contained in encyclopedias and textbooks are good **examples of explicit knowledge**."



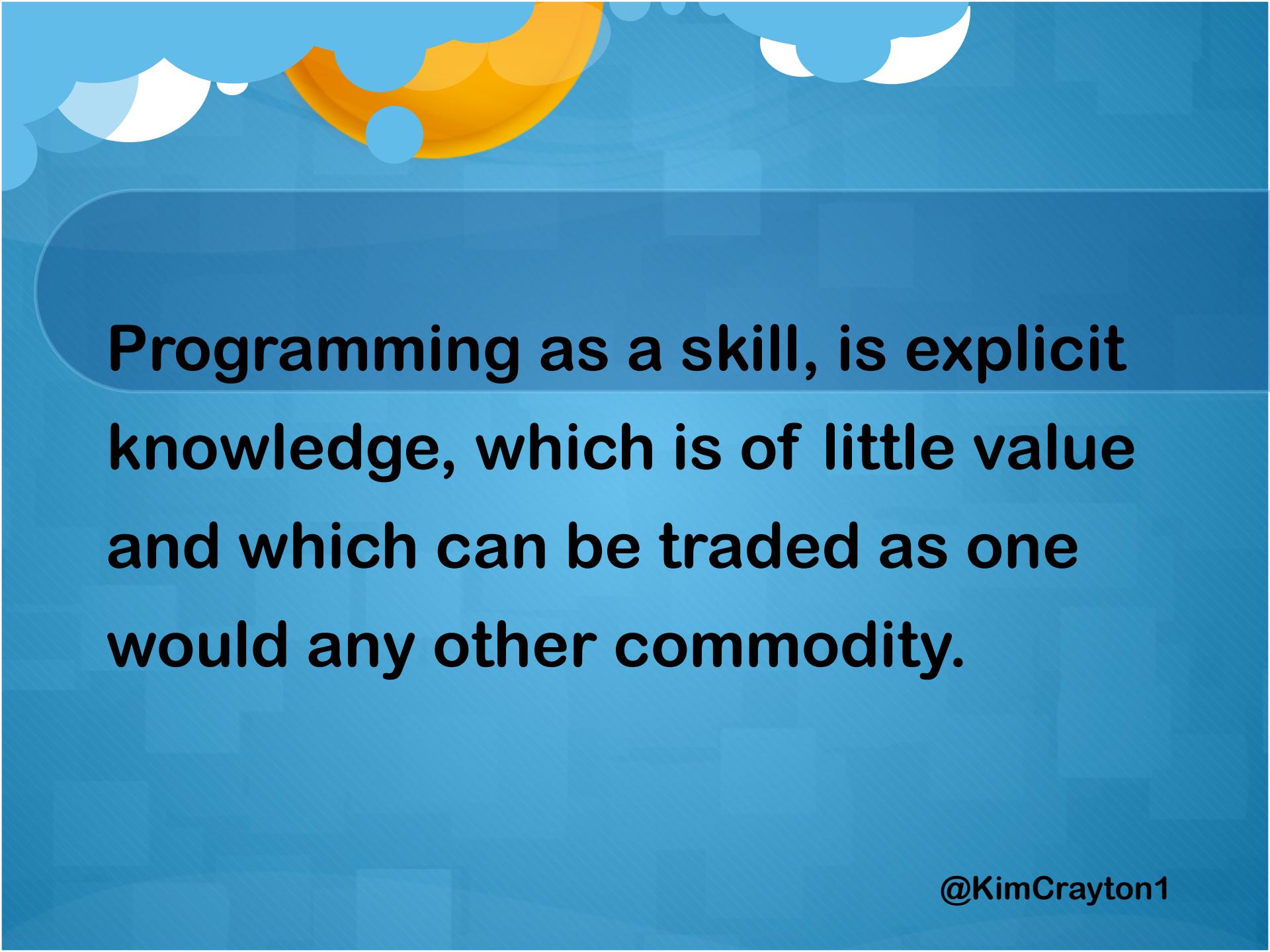
Explicit knowledge can and
will be automated.



"Tacit knowledge (as opposed to formal, codified or explicit **knowledge**) is the kind of **knowledge** that is difficult to transfer to another person by means of writing it down or verbalizing it."



Tacit knowledge is what 21st century business leaders must understand and capture in order to gain and maintain competitive advantage, because once tacit knowledge walks out of an organization untapped, organizational leaders have lost part of their ability to innovate.



Programming as a skill, is explicit knowledge, which is of little value and which can be traded as one would any other commodity.



The programmer's
experiences is tacit
knowledge and where the
true value lies.



**So conversations related to Technology A vs Technology B vs
whatever else, are often demonstrations of individuals subscribing
value to the tool rather than leveraging the value of the tool user.
This is a classic example of seeking simple solutions to solve
complex problems.**



Strategies for Developing Your Other Technical Skills

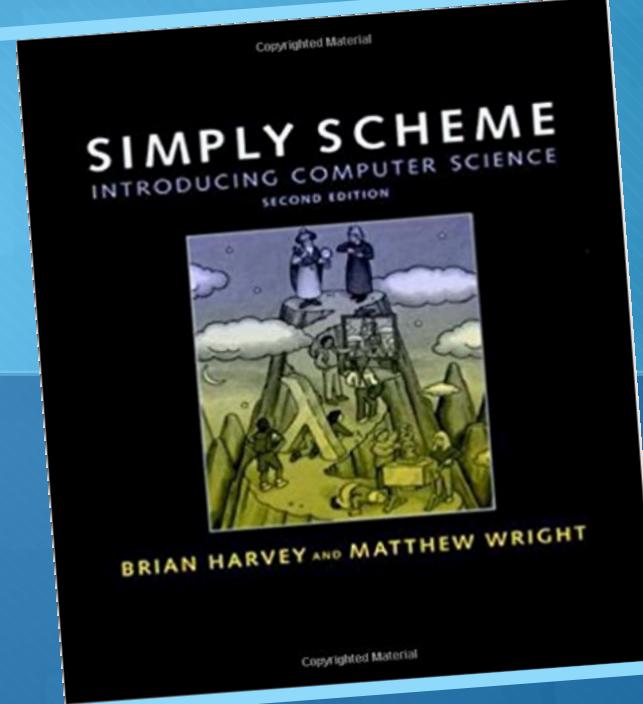
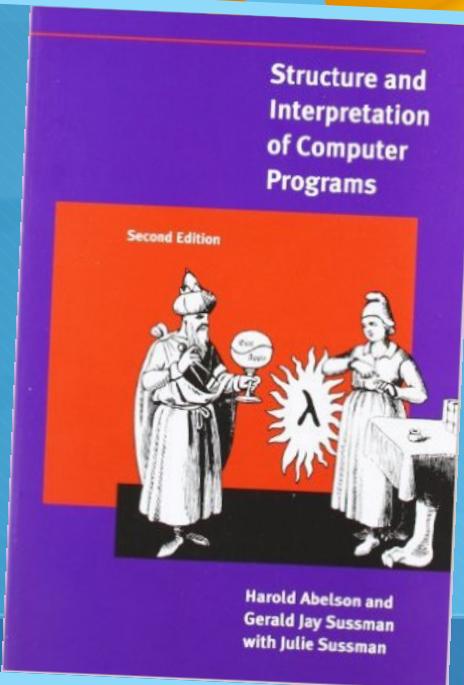
- Seek opportunities to be a part of multi-discipline teams.
- Seek opportunities to mentor and be mentored.
- Seek feedback on skills other than programming.
- Offer to write documentation.
- Spend some time working in the support department solving customer's problems.



Strategies for Developing Your Other Technical Skills

- Conduct “Lunch and Learns” for non-programming staff.
- Participate in job shadowing or job swapping.
- Socialize with non-programming staff in activities that do not involve alcohol.
- Speak at a tech conference about something other than technology.
- Volunteer to teach programming to someone from a underrepresented or marginalized group.

Share Your Excitement!



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thank you

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