



COBALT

MAGAZINE

ARTIFICIAL INTELLIGENCE

Making AI yours | p. 26

DREAM BIG

Dream BIG/ Create a Spark
p. 22

AEROSPACE ENTREPRENEURS

The New Frontier | p. 34



THE AMBER
COLLECTION

TECHNOLOGY CARRY CASES
FOR A PASSIONATE
LIFESTYLE

AMBER

WWW.E-GLAM.COM

Image by Robin McDougal

EDITOR'S NOTE

Cobalt is a magazine for women enabling their passion's with technology. We call this a Cobalt Lifestyle. Named for the natural element found in the Earth's crust, cobalt is valuable when driving today's ion-lithium battery industry and is beautiful in the cobalt blue state.

As I am writing this note to you, smart windows are intelligently adjusting their blue tint to remove unwanted glare while rejecting unwanted heat to lower my energy bill. Are you using your artificial intelligence device to order take-out? Soon, autonomous vehicles will map our daily destinations. Soon, the newest frontier technology will fulfill our fantasy to live on another planet by 2024.

Our passionate readers are underrepresented in the technology work force, are blending family with career, and are mentors to our young emerging professionals. Cobalt women are passionate technology business founders launching tech start-ups. Many of our early stage founders are underrepresented at the Venture Capital funding table. Pitch Book reports only 2.2 percent of the \$130 billion total in venture capital money is invested in female founder tech companies each year. As a result, we created Cobalt Magazine to tell the story of how women make decisions, change communities, and elevate their opportunities in the technology industry.

Welcome to Cobalt Magazine!



Robin

Robin McDougal
Editor in Chief



*"Never miss an
opportunity to be
fabulous!"*

— Tina Seelig, *What I Wish I Knew When I was 20*

COBALT

Passion Inspired, Technology Enabled

TABLE OF CONTENTS

ENTREPRENEURS

Editor's Note	03
Mutual Mentoring	07
Unlock Passion Puzzle	09
Track My Success	14



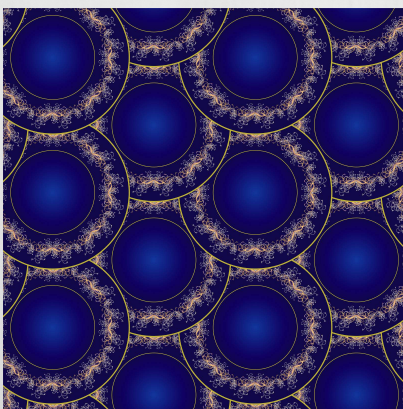
Residential Living in 2020	51
Diary of an Herbalist	53



Where to Next? *Space & Frontier Technology* ³⁴

FEATURE

Baby boomers & Tech	19
Wilhelmina Jewell Sparks	22
AI in 2022	26
Young Emerging Professionals	42



Cover:
Patterned Seamless
by leonikonst





“EVERY LEAF
SPEAKS BLISS
TO ME,
FLUTTERING
FROM THE
AUTUMN TREE.”

Emily Brontë'



Mutual Mentorship

Food for Thought

With the summer season behind us, we are harvesting our bounty in order to count our blessings and take stock of our accomplishments. The phrase, Food for Thought (*something that warrants serious consideration*) is perfect for this time of year. Fall is a great metaphor for reflection while taking stock of all we have achieved. We have an opportunity to make note of our strengths, creative talents, innovative ideas, and our networks as valuable natural resources.

Like all resources necessary to thrive for life—water, air, energy, we need to balance passion for life with sustainability. Good health, supportive relationships, thoughtful planning and community giving are all under consideration. As we take inventory, how do we assess our responsibility to each other?

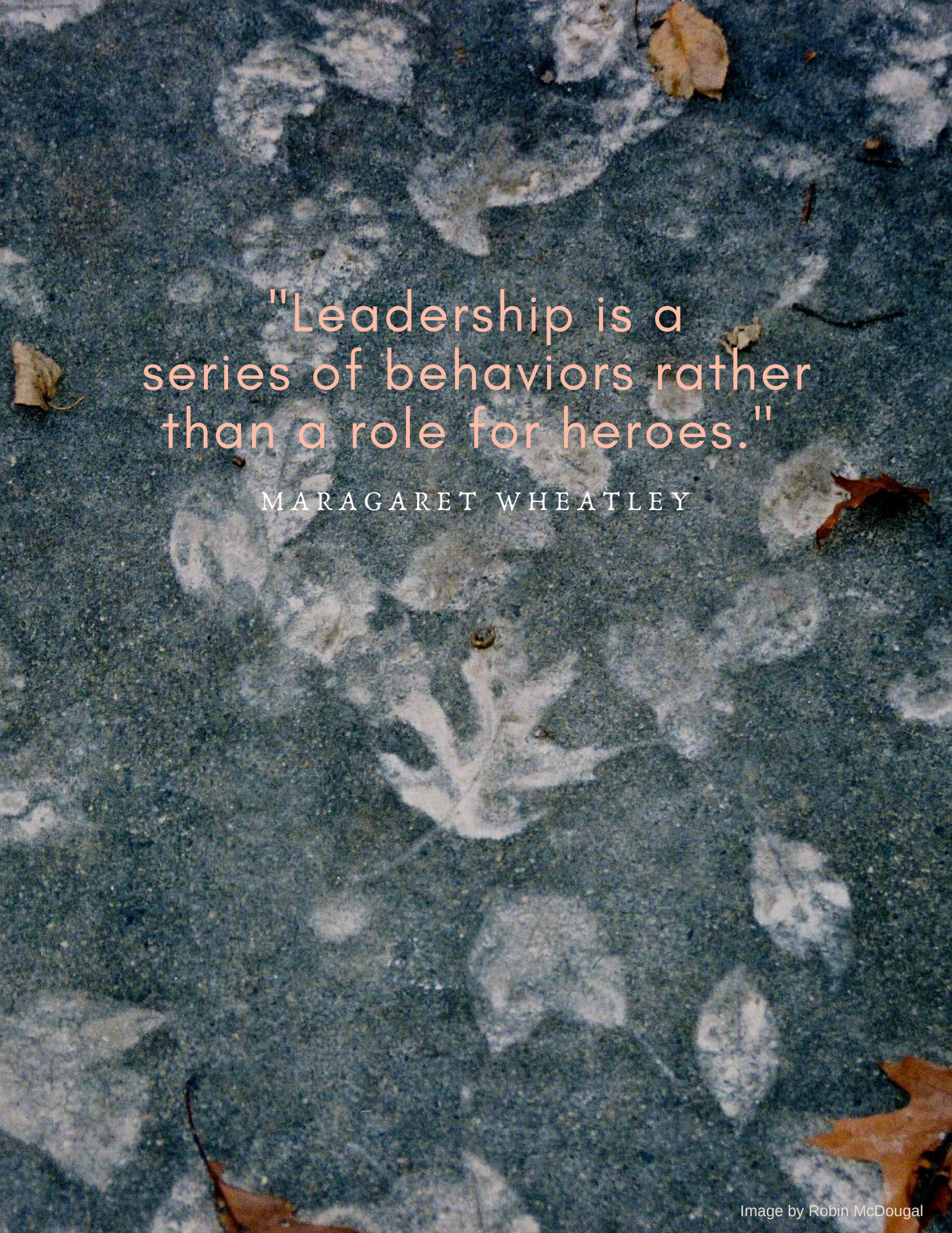
Mentoring affords us many opportunities to share compassion, tips, and skills. The hierarchical transfer of knowledge and information from an older, more experienced person, to a younger, less experienced person, is no longer the prevailing mentoring paradigm. Today, mentoring is considered more process-oriented (involving knowledge acquisition, application and critical reflection). The protocol for mentoring is grounded in a reciprocal and collaborative learning partnership between two (or more) individuals who share mutual responsibility and accountability for reaching mutually defined mentor/mentee goals. (Lois J. Zachary, Ed.D.)

Women helping Women.



Image by Robin McDougal





"Leadership is a series of behaviors rather than a role for heroes."

MARAGARET WHEATLEY

UNLOCKING THE PASSION PUZZLE

HOW WOMEN CAN LEVERAGE ENTREPRENEURSHIP AND TECHNOLOGY TO LIVE LIFE ON THEIR TERMS



Horace Mann {1796-1859} is credited with this quote: “Education then, beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance-wheel of the social machinery.

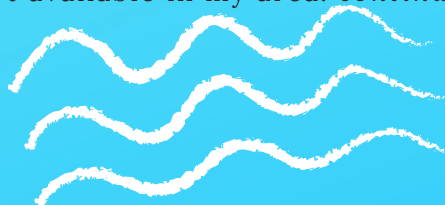
Well, sort of. All the evidence from studies of higher education supports the notion that people with 4-year degrees earn MILLIONS more in lifetime salaries (a lifetime total of \$2.27 million on average, according to a 2011 U.S. News & World Report). That’s great until you look at the reality of who’s in key executive positions and in the boardroom. Toss in a little “#me too” and the well-documented gender pay-gap, and you’ve got yourself a real dilemma. I’m not saying education is not important. It is critical—a must. But for me, it was not enough.

In my own experience, even with a 4-year degree (German & French with a minor in Business Administration), I found it difficult to find rewarding work that paid well. I graduated during a mini recession and often had to work two jobs to make ends meet. I got married and had kids (twins and a singleton in 16 months) and left the workforce. When I did re-enter, I had lost ground. Office systems and internet technology were on a tear, and I was behind the curve.

So, I did what a lot of women do—take a professional hit to care for family. I didn’t regret it for a moment, but I still needed to “catch up”. I looked into getting a graduate degree. I knew I would still have to work part-time, go to school part-time...and parent full-time? Plus, I couldn’t make the ROI case for myself given my age at the time. It just didn’t make sense for me to go that route.

Finally, a co-worker recommended I read “Rich Dad Poor Dad” and the companion book “Cash Flow Quadrant”, written by Robert Kiyosaki and Sharon Lechter (whom I recently met at a training—she’s awesome!) Both are self-made millionaires. The big take-away for me was I had to be a business owner in order to get what I wanted. The only problem with that was I didn’t have a product or service to take to market. I knew I was smart, educated, generally good at stuff and super tenacious. I found what I was looking for in franchising.

In 2005, I began researching franchises and was overwhelmed at the options. I filled out one online request and my phone started ringing off the hook (remember when phones had hooks?) There were food franchises and coffee franchises and cleaning franchises and pet franchises. There were so many that I liked, but they were either outside my investment range (once I read the fine print) or they were not available in my area. *continued*





**CROWDED
COFFEE
SHOPS
ARE
OLD
NEWS**

workchew™

**FOOD & DRINK
DISCOUNTS**

**BLAZING FAST
WIFI**

**RESERVED
SEATING**

**NETWORKING &
COMMUNITY**

UNLOCKING THE PASSION PUZZLE

CONTINUED



I FELT LIKE I WAS CHASING MY SHADOW AND NEARLY GAVE UP UNTIL EVENTUALLY, I TALKED WITH SOMEONE WHO TOLD ME HE WAS A FRANCHISE BROKER. “A WHAT?”, I REPLIED. “THAT’S A THING THAT PEOPLE DO?”

I felt like I was chasing my shadow and nearly gave up until eventually, I talked with someone who told me he was a franchise broker. “A what?”, I replied. “That’s a thing that people do?”

In fact, it is. This was the opportunity I was looking for. So, I found a specialized training company, joined a network of other professionals, and my first business was born. This was amazing to me because I was able to experience as many franchises as I wanted. I went on to assist some emerging- and start-up brands and found great strategic partners along the way. It was such a liberating experience. I had time with my kids, now all in elementary school, and one was a competitive gymnast who routinely traveled out of state and sometimes across the country.

Later I bought, built, operated and eventually sold two small businesses, one a multi-unit franchise and the other an independent start-up running them side-by-side.

Today, I leverage amazing technology in all aspects of my business, which I can run from virtually anywhere on the planet with internet or cell service. And, because I have aligned myself with a very successful network of franchise professionals, I have access to a cutting-edge franchise-matching program based on 25 years of neuroscience research; a market data analysis tool that provides hyper-local information about market conditions helping to understand whether a particular franchise will thrive in that market; and a state-of-the-art franchise grading system that analyzes over 20,000 franchise disclosure documents to provide my clients with the best opportunity for success in their chosen franchise.

UNLOCKING THE PASSION PUZZLE

CONTINUED



“MY PASSION IS TO HELP FRANCHISEES AND ALL SMALL BUSINESS OWNERS SUCCEED ON A MASSIVE SCALE. IT IS MY FIRM BELIEF THAT BUSINESS OWNERSHIP IS THE ENGINE OF OPPORTUNITY THAT SUPPLIES THE LEVERAGE WOMEN NEED TO BE COMPETITIVE AND LIVE LIFE ON THEIR TERMS.”

F.A.C.T.S.

- Franchising works: Franchises have a proven business model. They have a track record that can be verified through due diligence.
- Accelerated market entry: Franchisees have a much faster to-market time than independent businesses.
- Concept: Franchises deliver proof-of-concept.
- Technology: Franchises invest heavily in the best technologies and share the cost savings with franchisees. Looked at another way, investing in a franchise is to invest in the technology transfer of the entire operation.
- Systems: The best franchise companies have refined systems for everything: hiring and training, marketing, sales,

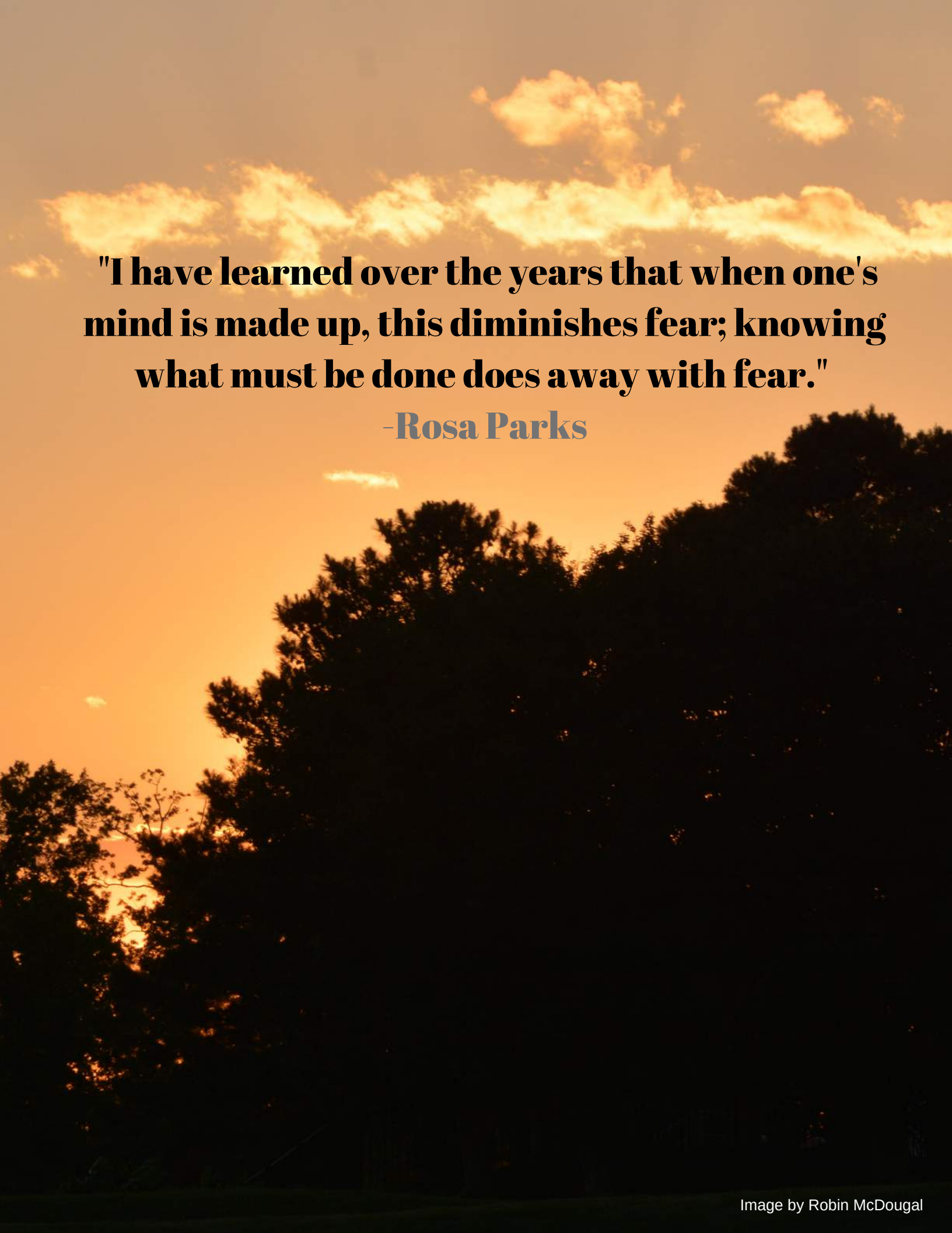
pricing, inventory, site selection and often have approved vendors greatly reducing your time and effort in organizing all the different aspects of operating a business.

Let's face it. Technology doesn't much know or care about the user's gender. It is the choices we make about how to employ technology that will determine our quality of life in almost every aspect.

Want to know more? Schedule Your Complimentary 30- Minute Consultation With Tina, text the word "franchise" to 26786, visit the website at www.globalfranchiseassociates.com or visit our Facebook Page.

Tina Gantz, CEO Global Franchise Associates, is a franchise expert and small business strategist.





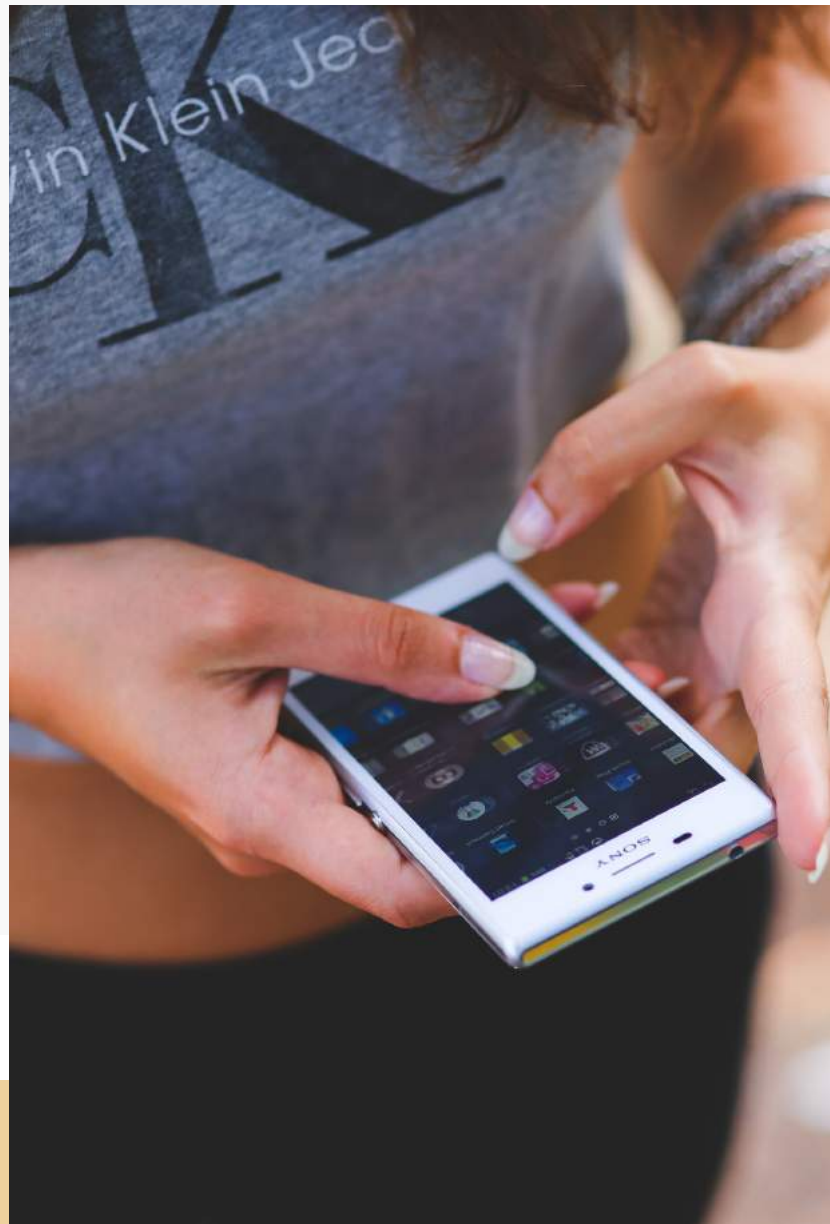
"I have learned over the years that when one's mind is made up, this diminishes fear; knowing what must be done does away with fear."

-Rosa Parks

USING TECH TO MAKE LIFE EASIER

One can not dispute the fact that we live in a technologically driven world. Everyone feels the need to be “connected” in some way shape or form, and the presence of social media apps can prove this. Ever since the introduction of the smart phone, people have found an exceptional amount of uses to be incessantly plugged into the internet. But aside from the constant and almost unconscious scroll through to keep up with what’s trending, there’s many more benefits to having a super computer glued to your hand for most of the day.

I’ve been a planner even before I chose an occupation that required me to be organized with time and schedules. Because of this slight obsession, I have been so grateful for the advances in technology that make organizing much more convenient than just walking around with a notebook/planner and writing in lists of things to do, deadlines, appointments, etc. My absolute favorite usage of my smart phone are the functions that help keep me organized.



From my calendar alerts and notifications, to my to-do checklist that gives me that feeling of gratification and accomplishment that motivates me; using tech to stay on top of my life has been very rewarding.

Another benefit of smart phone usage is money management and financial planning. I have been able to manage my multiple accounts at the palm of my hand. Using mobile applications such as PayPal and other payment apps, it’s easy to send and receive money without ever going to the bank.

**“THE MORE YOU
PRAISE AND
CELEBRATE
YOUR LIFE, THE
MORE THERE IS
IN LIFE TO
CELEBRATE.”**

OPRAH

TRACK MY SUCCESS, SHARE IT WITH MY FRIENDS



They're also more secure for online purchases than entering your own banking information into untrusted vendor websites. I also use applications such as Mint, developed by Intuit, the same developer for TurboTax. With Mint, I am able to track all of my accounts in one place, see when I have bills and other expenses due, set budget amounts for my spending and even check my credit score. It has been easier to set financial goals with the usage of technology than ever before.

When thinking about improvements to make in life that you could use constant encouragement and motivation for, most people can relate to the goal of weight loss and fitness. I'm not very good at sticking to routines on my own, especially when it comes to the necessary changes that are required for better health and fitness.

Using smart phone apps that require daily goals, and that can track my progress, actually help motivate me to continue a success streak.

Being able to track my success, share it with my friends also gives me enough boosts of motivation to keep going. I've used apps such as MyFitnessPal to track the calorie intake of each meal, water intake, and exercise to work towards a weight loss goal.

Motivation to meet my daily calorie goal helps me to avoid foods and snacks that will put me over my limit, and to choose healthier options instead.



Healthy Lifestyle

This has resulted in significant fitness progress for me that I would recommend to anyone. It's also beneficial because it promotes a healthy lifestyle and not just a diet fad that can lead to unhealthy habits or future excess weight gain.

Overall, the use of technology, and more specifically, smart phone usage, has redefined our daily lives tremendously. From organizing our daily lives, financial management, and even fitness goals, these are just a few of the ways technology has swept us into a more convenient and efficient way of life. What better way to energize our lives than to plug into the latest and greatest of technology and use it to pursue our life goals!

Fitness

REACHING MY GOALS



Erica Bourne

DO SOMETHING TODAY
THAT YOUR FUTURE SELF
WILL THANK YOU FOR





"Make time to refocus
your vision to achieve
success"

STEPHANIE VOZZA



Baby Boomers

The US Census Bureau estimates that there are 74.1 million Baby Boomers in American today. Baby Boomers are defined as children born at the end of World War 2 between 1946 and 1964. Out of the 74.1 million, 38.44 million are women. These women are offered more choices than their mothers and grandmothers. Technology has afforded them these choices as it will for future generations of women.

Multifaceted, these women are represented in all areas of society and industry. Their presence and contributions are formidable. Several have opted to continue working past retirement age. Their physical presence is no longer needed in homes equipped with smart appliances. Home appliances assist these women in organization and efficiency.

They can start their laundry, dinners and even vacuum all with remote smartphone control. It can be as simple as a verbal command to a Bluetooth device.

Technology has been instrumental in increasing our free time.

Educated vastly different from their millennial counterparts, women Baby Boomers appreciate that technology has placed information at their fingertips in an instant. Even with the swift changes in technology, many have embraced the challenges of staying on top of cutting edge advancements.

Technology has pervaded our society and is difficult to ignore; ATMs, self-service check outs and automated kiosks are everywhere.

As a woman of this demographic, it wasn't long ago that I monitored my son, nephew and nieces' use of the internet. Now I find myself relying on their tutorials to stay tech-savvy. I must confess, I also put upon a fellow Baby Boomer who is an administrator in business to share her expertise when needed.

I know smart watches are equipped with GPS systems, can program workouts, keep fitness diaries, track progress and monitor one's vitals, yet I don't have the desire to own one. I think the GPS on my smartphone will suffice. It's all I can do to put a fitness DVD in my Blue Ray device on a consistent basis. However, I do have a pedometer on my cellphone. Come to think about it, maybe a smart watch would motivate me to work out more often.



Image by Robin McDougal

While I haven't given much thought to Tech togs, I do subscribe to digital magazines. I prefer the tactile feeling of a book in my hand as opposed to reading on my tablet. I hate to try on clothing and the fact that I can try clothes on an Avatar to put together an outfit is exciting. I liken it to playing with paper dolls as a child.

I live in an apartment complex and am toying with the idea of buying a townhouse or condo. I am trying to stay knowledgeable about the latest cyber security so I will know what to purchase once property becomes a reality for me. I do so enjoy the Ring commercials.

I am retired and love to travel. I plan on purchasing language translating ear buds which I find fascinating. Italy here I come!

Social media, video chats and even texting has closed the gap between me and family members throughout the country. I am able to support my cousin's on line business, a business she was forced to start after she was downsized.

Not all my peers have embraced technology; I have a girlfriend who doesn't own a cellphone or computer. She isn't even curious. While she is in the extreme category, I would encourage anyone who is reluctant to begin by changing their negative perspective towards technology. Technology can open doors of opportunity to explore hobbies, philanthropic pursuits, the arts and other interests. We must be discriminate in utilizing technology, namely the internet. We especially need to monitor our children and grandchildren's use of the web. Education is incorporated with the use of technology, and will be even more for future generations.

I find the idea of wearable technology appealing. One thing I know for sure is shopping is more exciting now that we are exposed to a global market. I am keeping watch for new and innovative wearables that I may utilize. A purse with a charger incorporated may be on the horizon for me. I do own a RFID wristlet and a couple of wallets to safeguard me from hackers getting my credit card and bank information. A handbag that lights up when opened might be in my future. I don't think I am ready for jewelry that syncs to my smartphone. Text notifications on my mobile device are enough for me.



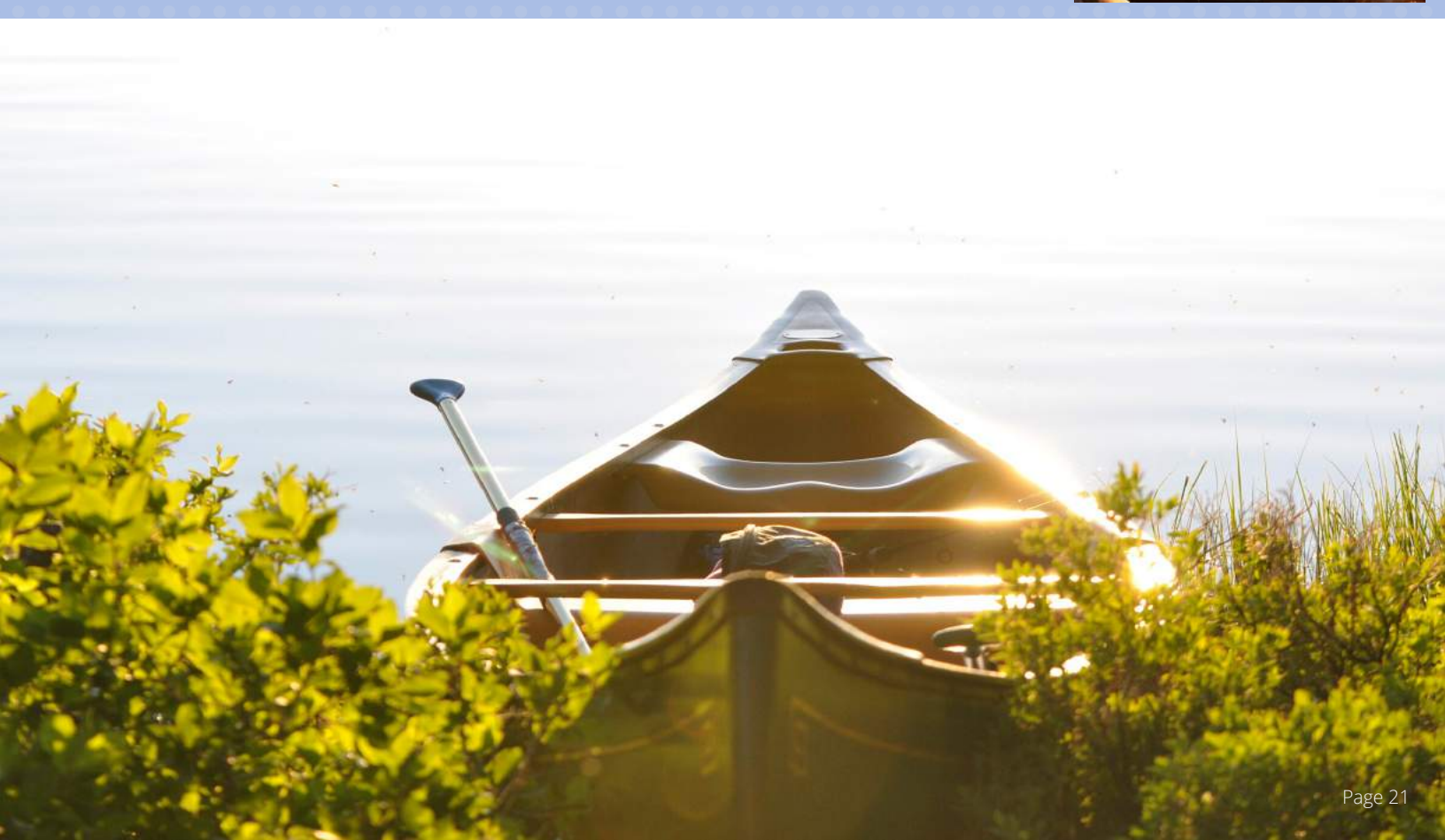
Baby Boomers

I would advise those who are hesitant to determine what suits their needs. Seek out a young mentor to help you navigate the complexities of technology. The perk will be keeping the lines of communication open with our youth. Most of all have fun exploring the options technology offers and there are plenty.

I think learning sustains our youth. Who knows, maybe technology can be the real fountain of youth?

TECHNOLOGY CAN BE THE REAL FOUNTAIN OF YOUTH?

Johanna Brown is a retired civil servant from Brooklyn, New York. She has written a coming of age novel.



Sparks

Feature

Wilhelmina Jewell Sparks



CO-C SUITE EXEC, CHIEF INNOVATION OFFICER+GLOBAL DIRECTOR OF STRATEGIC PARTNERSHIPS-MENTOR-BUSINESS ANGEL



“Time is short and precious. No one cares about your dreams more than you...”

Wilhelmina Jewell Sparks, MBA 珠尔

**GLOBAL DIGITAL TRAILBLAZER
USA TODAY, NPR, BLACK ENTERPRISE,
TECHCRUNCH, REFINERY 29,
COSMOPOLITAN, LEAD DIGITAL,
WOMEN’S FORBES**

Mentor, advisor, influencer best describes Ms. Sparks impact on the global market place. With over 20 years in the biotech /pharmaceutical, consumer products, ICT, software, entertainment, future food, and retail industries, Jewell has her finger on the pulse of trends in technology. Jewell’s background in molecular biology coupled with an MBA in strategic planning and global markets gave her the edge she needed to advise and guide companies like Syntex/Roche Japan, Proctor & Gamble, Elily Lilly, and Amgen as their resident Health, Biotech and Pharmaceutical Expert.

PASSIONATE ABOUT HELPING OTHERS ACHEIVE THEIR DREAMS

BiTHOUSE Group
Chief Innovation Officer, Global
Director of Diversity and
StrategicPartnerships

BiTHOUSE Group is a global initiative providing tech scouting, government relations, and sustainable business solutions to “Minimize Barriers to Entry” for innovators, investors & corporate entities. Based in Germany, Jewell finds herself crossing the boundaries of nations, cultures, and language to meet the needs of her array of clients. With Jewell’s “go get em” approach to life, we became fast friends and as a result, I enjoyed learning about her journey as a thought leader in the international world of business. I also learned how she supported corporate and startup environments in both Asia, San Francisco/ Silicon Valley, and Europe.



Interview

As a self-described " Climate Leader", how do you leverage today's technology to spread your message, impact change, and invite others to join you?

I possess a certificate from Climate Reality Leadership Corp. I try to utilize technology to scale various voices of those who realize that it is up to us to save our environment. Look at how powerful social Media has been for Greta Thunberg who has been raising global awareness of the problems posed by climate change, and with holding politicians accountable for their lack of action on the "Climate Crisis". I am not Greta, but I do have a lot of experience to share, so I utilize my technology intelligence to communicate with those who have the followers and the outer appearance to be heard by others without limitations.

Your work with the emerging tech start-ups is valuable. What would you "Tell-A-Girl" about why they should consider STEM education?

No one can take your education away from you. STEM education is a valuable tool to have in your box. Jobs, money, people will come and go, but what you accomplish on your own, what you learn will uplift you, enlighten you and work magic for you.

What explanation do you have for recent research findings from Pitch Book and reported by Fortune Magazine, revealing that women founders receive only 2.2% of the \$130 Billion, 2018 Venture Capital investment dollars?

Women will always receive the short end of the stick. The only way the system will change is when men who fund others respect their wives and daughters enough to pave the way for future generations. I have come to realize that adversity forces people to want to change how they relate to others as well. But as long as the going is good, people typically don't change.

What information would you use to measure a successful business model?

Is there a need for a product or service? Is it the solution scaleable and what is the value proposition. Market size and impact size.



How would you determine the characteristics of a viable founder's team?


It is our duty to learn every day. Founders need to be structured as well as agile. A good team, in my opinion, should have a good balance of technical, analytical, sales and communicative expertise. If a team thinks they need to worry about sales and communication last. I start to worry. It's really about education.

If you were hosting a "SPARKS" seminar, what would be the key takeaways?

Be passionate about whatever you do. If you don't have the skills admit it and align with those who do. Never think that you are not replaceable. Stay humble and remember that things work when you do ... Always help others when you can.

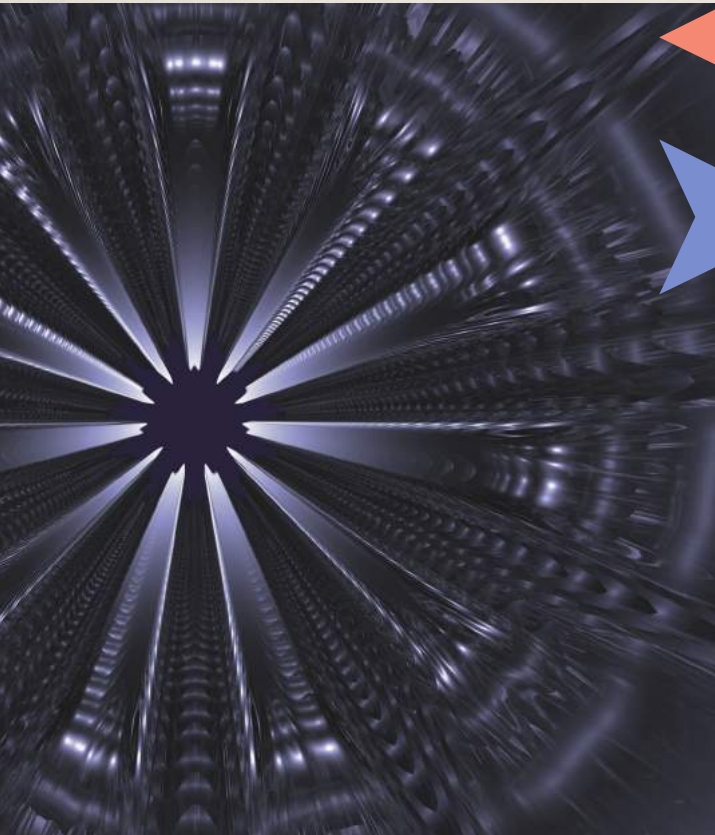
Robin McDougal





“IT’S ACTUALLY GREAT TO
BE DIFFERENT. WE SHOULD
CELEBRATE IT AND MAKE
IT PART OF WHAT WE DO
EVERY DAY.”

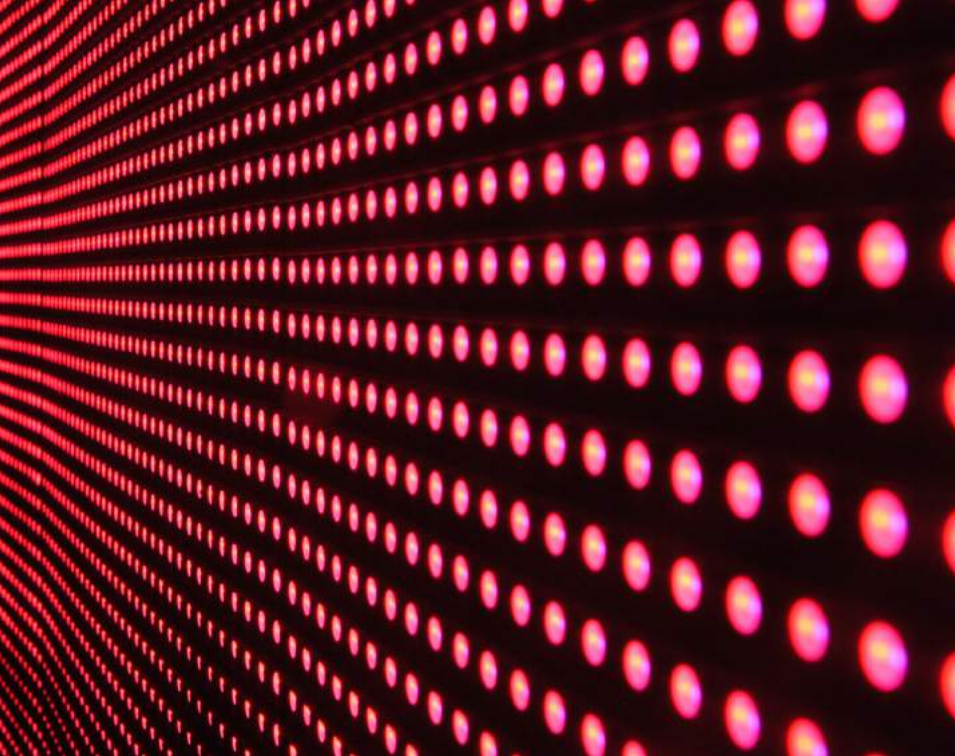
-Sarah Bond, Microsoft-Head of Global Gaming
Partnerships and Business Development at Xbox



WHAT IS ARTIFICIAL INTELLIGENCE?

What is Artificial Intelligence and why should we care? Artificial Intelligence is a trending topic and is in the news almost every day. I am sure the word “AI” or “Artificial Intelligence” invokes images of robots, terminators, R2-D2-like droids, replicants etc. This is what movies made us believe about AI. Today we use multiple applications on a daily basis unaware that it uses artificial intelligence. Some examples are your email spam filter, tagging friends and family on your Facebook photos, Netflix “what to watch next” recommendations, voice apps like Alexa or Siri, maps apps like Waze, your bank’s chatbot etc. According to a recent report by McKinsey AI investments in 2018 reached \$15 Billion.

The reason that most AI applications today don’t resemble a robot is because the artificial intelligence applications today are mostly functional. They are built to do one function well. What this means is that you cannot use Amazon Alexa to tag your friends’ photos on Facebook.



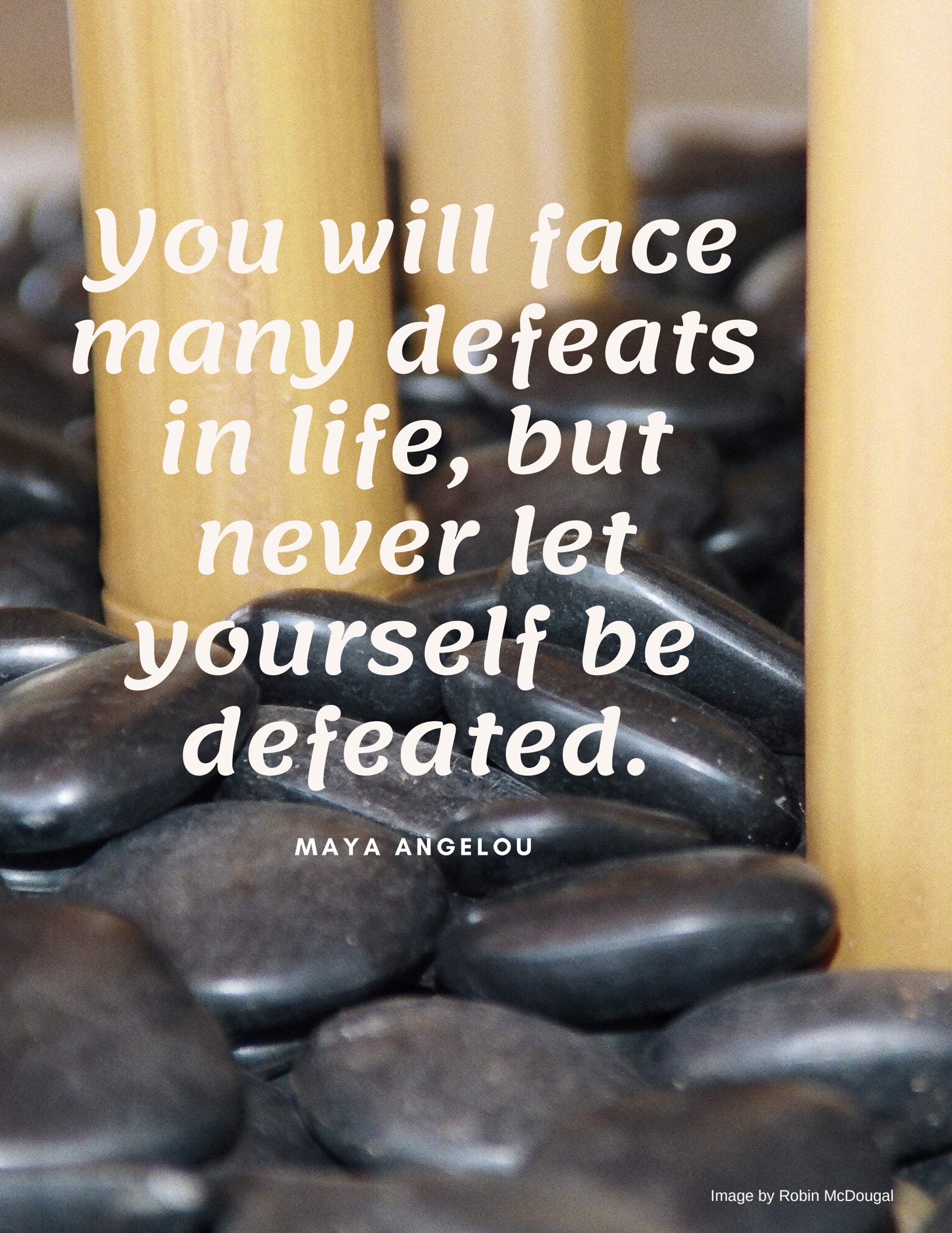
Computer programs or “machines” learn from this data and deduce actions that utilize this data. Machine learning is a software program that uses “data” to learn from and make decisions. For example, the Netflix recommendation program looks at all your past viewing experiences and based on that data recommends a new show to you.

Neither can you use it to do your laundry (we wish!) Alexa is programmed to respond to voice commands. This type of single-function artificial intelligence application that is in use today is called “Artificial Narrow Intelligence” or “Narrow AI”. In the future, we might have AI resembling robots and capable of performing various functions. That type of AI is currently under research and is termed as “Artificial General Intelligence” or “AGI”.

But why did AI suddenly explode? There are multiple factors that have made this possible. In order to understand those factors, let’s take a look at the most common way of building AI applications today. Most artificial intelligence applications today use “machine learning”. We are in an increasingly digital world today and all our actions produce immense amounts of data.

WE ARE IN AN INCREASINGLY DIGITAL WORLD TODAY...

```
class="container">
  class="row">
    <div class="col-md-6 col-lg-8"> <!--
      <nav id="nav" role="navigation">
        <ul>
          <li><a href="index.html">Home
          <li><a href="home-events.htm
          <li><a href="multi-col-menu.
          <li class="has-children"> <a
            <ul>
              <li><a href="tall-bu
              <li><a href="image-l
              <li class="active"><
            </ul>
          </li>
          <li class="has-children"> <a
```

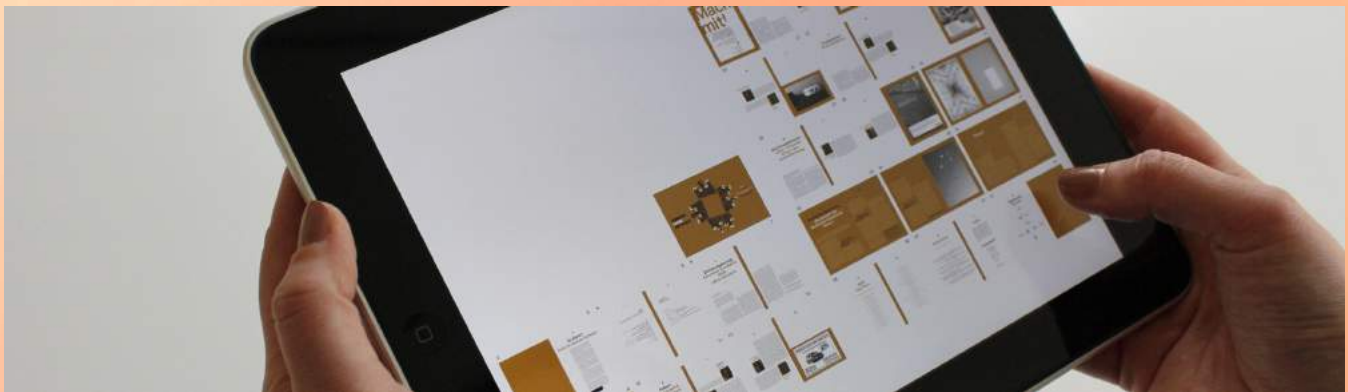
*You will face
many defeats
in life, but
never let
yourself be
defeated.*

MAYA ANGELOU

BENEFITS OF AI

Going back to the question of why AI has suddenly exploded, the answer is tied to the huge amounts of data. The cost to store peta and zeta bytes of data is low. The processing power of computing has accelerated, and cloud-computing has made it possible to create new computer programs on the fly. Going back to the question of why AI has suddenly exploded, the answer is tied to the huge amounts of data. The cost to store peta and zeta bytes of data is low. The processing power of computing has accelerated, and cloud-computing has made it possible to create new computer programs on the fly.

The benefits of artificial intelligence are manifold but the one that cuts across industries is the automation of complex tasks. For example, organizations can use artificial intelligence applications to improve customer service while lowering costs. Machine learning software algorithms use technologies such as natural language processing based on historical customer interactions and continuously learns from it. Customers asking questions to get accurate answers, lowering response times and allowing human customer service representatives to focus on higher-priority or more-complex interactions



ARTIFICIAL INTELLIGENCE IS NOT WITHOUT ITS PITFALLS.

Most of the artificial intelligence applications like loan application processing and fraud detection, diagnosis of diseases in healthcare, and drug discovery besides many others improve the delivery of services and promote efficiency in operations. There are some disadvantages to consider with AI.

We are so smitten by artificial intelligence that we have embraced it openly without thinking twice about the consequences.

Artificial intelligence is not without its pitfalls. There are obvious concerns about data privacy. Another factor that we might not immediately think about are the ethical implications of AI. Take the case of using artificial intelligence by law enforcement officials using face recognition systems to help identify suspects. Advocates have repeatedly demonstrated that face recognition systems can fail spectacularly, particularly for dark-skinned individuals—even mistaking members of Congress for convicted criminals.

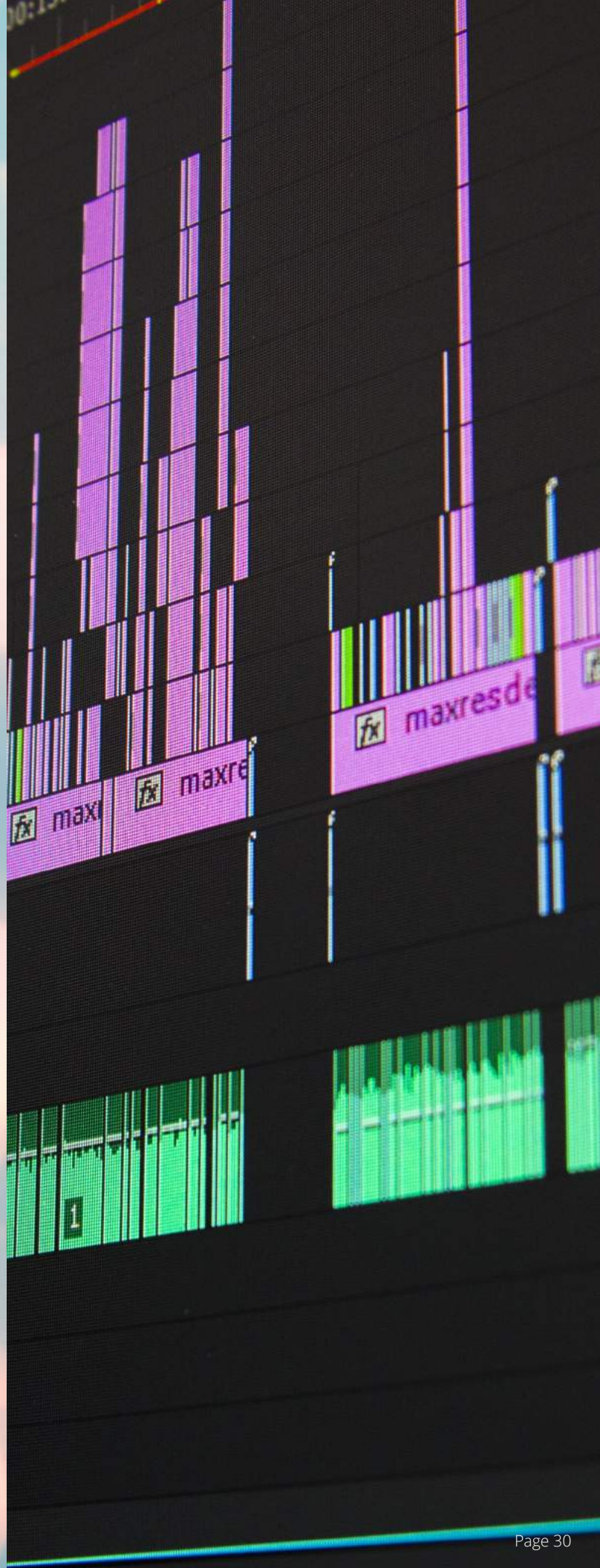
AI

Since the basis of artificial intelligence is enormous quantities of data, it is no surprise that human biases are part of that data. The ethical design is a huge concern in the context of artificial intelligence application.

Why we should care?

We all have heard of self-driving cars and trucks. Imagine a future where we no longer buy cars but lease them. This would impact the insurance industry, the parking garages, the auto repair shops, the local car wash, gas stations etc. This is just one example.

Extend it to the automation of other industries like AI concierge, automated diagnosis, cashless checkouts, customer service chatbots etc., we are looking at hundreds of jobs that are altered in an irrevocable manner.





What this means is that while some jobs might become obsolete, artificial intelligence also creates immense opportunities for new types of jobs or in some cases alter our existing jobs. The future jobs are increasingly going to use Artificial Intelligence and those who keep themselves abreast of this technology to leverage it for various use-cases are going to stay ahead of the curve. This shows that Artificial Intelligence has a huge impact on our communities, society, and people at large. They have ramifications in healthcare, economics as well as national security and governance.

HOW DO MANY INDUSTRIES USE ARTIFICIAL INTELLIGENCE APPLICATIONS?

The Jobs Landscape in 2022

emerging
roles,
global
change
by 2022



Top 10 Emerging

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services

declining
roles,
global
change
by 2022



Top 10 Declining

1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

Due to this increase in the integration of artificial intelligence applications in all walks of our life, it is best to understand this technology's capabilities, benefits and risks. There is an underestimation of the use of artificial intelligence today, which impacts the way we interact with these apps. Cambridge Analytica used the simple "likes" of Facebook data to sway the elections in 2016 using artificial intelligence.

AI IS BECOMING AN INTEGRAL PART OF SOCIETY

This lack of understanding and information about the widespread use of AI today would impact our immediate future and future generations. There are also moral, philosophical and ethical implications of AI systems we will have to consider, as AI is becoming an integral part of our society and changing the way we think, act and behave as humans.



Add a little bit of body text

What to Consider?

Due to this increase in the integration of artificial intelligence applications in all walks of our life, it is best to understand this technology's capabilities, benefits and risks. There is an underestimation of the use of artificial intelligence today, which impacts the way we interact with these apps. Cambridge Analytica used the simple "likes" of Facebook data to sway the elections in 2016 using artificial intelligence.

This lack of understanding and information about the widespread use of AI today would impact our immediate future and future generations. There are also moral, philosophical and ethical implications of AI systems we will have to consider, as AI is becoming an integral part of our society and changing the way we think, act and behave as humans.

Swathi Young, Chief Product Strategist

is the founder of TechNotch Solutions, a technology strategy and management consulting company. She is currently researching the ethical implications of biased data in AI.

<https://www.technotchsolutions.com/>

<https://linkedin.com/in/swathiyong>

<https://twitter.com/swathiyong>



Prototype Exploration Suit (PXS)

no. 5

image from NASA



Space

Women of Frontier Tech



JULIE VAN KLEECK

Leader
Innovator
Rocket
Scientist

The Road to Mars 



In LEO
Commercial & International
partnerships

In Cislunar Space
A return to the moon for
long-term exploration

On Mars
Research to inform future
crewed missions

NASA IS GOING FORWARD TO THE MOON TO STAY, AND ON TO MARS

The Dawn of Commercial Space Exploration Has Arrived

There are several factors contributing to the dawn of commercial space exploration including miniaturization of computer technology, more efficient propulsion capability, and placing frontier technology in the hands of entrepreneurs. NASA's next big rocket, the Space Launch System (SLS) featuring Orion spacecraft, the Lunar Command Module, and Gateway, will be our backbone for deep space exploration. Currently, NASA is collaborating with commercial providers for sustainable shelters suitable for the Moon and Mars.

"We will go to the Moon in the next decade in a way we have never gone before. We will go with innovative new technologies and systems to explore more locations across the surface than was ever thought possible. This time, when we go to the Moon, we will stay. And then we will use what we learn on the Moon to take the next giant leap - sending astronauts to Mars."

—NASA Administrator Jim Bridenstine

YES, THIS IS ROCKET SCIENCE

Going forward to the Moon and Mars is part of NASA's larger, sustainable space exploration campaign with international and commercial partners. Rocket scientist and aerospace engineers collaborate to design, test and build rocket propelled vehicles for space travel and defense.

Meet Julie Van Kleeck who has been shepherding the next era of space exploration. **A**udacious, **B**old, and **C**ourageous are the ABC's that describe Julie Van Kleeck. In 2013, Julie was appointed Aerojet Rocketdyne's Vice President of the Advanced Space and Launch Business Unit. With Ms. Van Kleeck at the controls, Aerojet Rocketdyne has been at the forefront of the human spaceflight program for many years. By supplying NASA with propulsion, power systems for in-space crew and cargo transport, Aerojet Rocketdyne has put the United States on track to returning to the Moon and beyond. To achieve this goal, NASA is collaborating with Aerojet Rocketdyne to power their newest and largest **Space Launch System (SLS)** heavy-lift rockets.



NASA's Heavy Lift Rocket SLS Support by Aerojet Rocketdyne





A TRUE ROCKET SCIENTIST


Ms. Van Kleeck earned her Bachelor of Science degrees in Mechanical and Aeronautical Engineering from the University of California which makes her a true rocket scientist. She began her career in systems engineering and later moved to rocket system product development. Julie continued to demonstrate expertise in virtually all forms of rocket propulsion technology and their applications. She has been instrumental in the development of leading-edge rocket propulsion technology and products, including a number of missile defense, launch vehicle and spacecraft propulsion systems.

Recently retired, Ms. Van Kleeck continues to exhibit leadership and remains active supporting women through outreach and advocacy efforts for STEM Education. She is engaged with organizations like Women in Aerospace programs, she is an AIAA Fellow, the Chair of the AIAA Corporate Member Committee, and a Propulsion and Energy Executive Steering Committee member. She also is a past board member of the Aerospace Museum of California and a current member of the European Space Propulsion board.

From an early age in the mountains of Lake Tahoe, Julie was passionate about the stars. The first in her family to attend college, she attributes her success and drive to supportive family members who recognized her talent for math and science. Early on, at the age of 10 years old, Julie's self determination guided her to save money and purchase her first telescope.

A Passion For The Impossible

Julie continues her drive and passion for accomplishing big things by leading innovation teams that ask the tough question with technology enable solutions. *"I enjoy seeing teams tackle a problem and move beyond what is perceived as impossible. It is the power of people and how they tackle the hard things to accomplish goals, as truly rewarding."* Starting as an engineer gave Julie an opportunity to see how the ability to build effective teams to accomplish the impossible rewarding. Julie shared, moving her career to the next level included the ability to select effective teams, set collaborative goals, and leverage advanced technology to exceed expectations.



**YOU CAN'T SUCCEED
BY YOURSELF,
BUILD A TEAM**

**JULIE VAN KLEECK,
ROCKET SCIENTIST**



IMPACT OF WOMEN

"You don't need to be a rocket scientist to make an impact in the aerospace industry."

-Julie Van Kleeck

Julie explained that she is an engineer by background and education. As a rocket scientist, she absolutely spent time on how to build rocket engines. With that said, she also shared that her true growth path and career journey was augmented when she moved more into Project Management. Julie says the most important aspect of her success was knowing how to get things done... ***"I know how to get things done."*** Julie Van Kleeck Getting the right people for the job is at the heart of a successful project. The ability to take an idea and make it real is a valuable skill in a leader. The leader must have the ability to articulate the risks and anticipate problems, while building a collaborative environment

designed to empower critical thinking. Julie also expressed that leaders must never underestimate the importance of being clear and concise.

The Role Model Network

"The private aerospace industry is dominated by males. When I started there were very few women in my field. As a result, when I was younger, the role models were men which taught me the skills I was looking to acquire. As time went on, I met other women like General Ellen Marie Pawlikowski (former four-star general of the United States Air force). Starting about 10 years ago I began to interact with more senior executive women. Overtime, I began to build a broader network. Having access to a network of influential role models gave us more confidence."

Page 40

Julie expressed how she benefited by her new network of influential women, *"Most of the senior women in aerospace had to be better, totally confident, and acquire the ability to control their emotions to get to the same place."* Julie goes on to explain, *"You had to be better than your male peers and needed to be persistent even when I was discouraged from access to be on a team. I was fortunate to have a boss that utilized my capabilities and gave me opportunities."*

Julie Van Kleeck's daughter is part of the next generation of technology leaders and recognizes a need for more women at the helm by building a pipeline for women in technology.

***"STAY PERSISTENT
EVEN WHEN YOU
FEEL DISCOURAGED."***

Julie Van Kleeck

“

JULIE VAN KLEECK

**YOU CAN'T SUCCEED BY
YOURSELF; BUILD A TEAM**

**SET GOALS THAT ARE
REALISTIC; DON'T FORGET
THE BASICS**

**RESPECT THE LAWS OF
PHYSICS; START THERE**

**THE ART OF
COMMUNICATION IS
FUNDAMENTAL**

”

YEP

Young Emerging Professionals



College Dwellers
Ready to Launch



Fueling the Next
Generation of STEM



COLLEGE BOUND

Advanced education still influences job prospects—even in early-stage startups.

*Prepare
to
Launch*



There is a persistent rumor spreading that a college education is not important or necessary to create personal success. I don't buy it.

Kauffman Fellows Research Center team of experts Collin West and Gopinath Sundaramurthy explored the link between education and startups using Crunchbase data to better understand key drivers between higher education and startup success stories. Their analysis spanned 90,000 U.S. venture-backed startups, including 419,000 startup roles going as far back as 2001.

Learn more at Kauffman Fellows
<https://www.kauffmanfellows.org>

Research quickly uncovered that the successful college drop out was rare. 56% of executives hold advanced degrees or fellowships. 70% of U.S. startups have at least one C-level person with an advanced degree. Facebook's number two, Sheryl Sandberg, is a Harvard MBA., Microsoft's President of US Regulated Industries Toni Townes-Whitley is a graduate of Princeton University's Woodrow Wilson School and has received certifications from Wharton Executive Education, New York University (NYU), and the Performance Management Institute, Melodie Yashar co-founder of Space Exploration Architecture holds a Master of Human-Computer from Carnegie Mellon University as well as a Master of Architecture degree from Columbia University.

Debra Sterling, founder & CEO company, GoldieBlox, is an engineer from Stanford University, spokesperson, and advocate for women in engineering and technology.

What's my point?

Women who came before us did not have the right to vote, sit where they wanted on a bus, and walked hundreds of miles to free themselves from slavery. All of this to ensure their daughters could improve their lives and the lives of others. Higher education closes the poverty gap for all, especially women.

Robin McDougal
Editor in Chief
Cobalt Magazine



Aerospace is Calling Her

The 50th Anniversary of Apollo 11 has become the supporting cast member when setting the stage for the new space economy. Between May and June 2019 NASA's announced the Artemis Moon Project's plans to return to the Moon and has selected three commercial service providers for Commercial Lunar Payload Services (CLPS) programs.

The 50th Anniversary of Apollo 11 has become the supporting cast member for the new space economy.

The dawn of the entrepreneurial space age was signaled with \$2.9 Billion being invested in Space companies between January-June 2019 representing 88% of the total amount invested in 2018. Cumulatively, \$22.3 Billion has now been invested in 476 unique space companies since 2009., according Venture Capital firm, Space Angels, Aerospace Entrepreneurs are stimulating competition and creating a dynamic marketplace for the next generation of early starts-ups in the areas of Artificial Intelligence, Cube Satellites, Robotics, Internet of Things (IoT), 3D Habitat Printing, autonomous vehicles, VR and Augmented Reality.

Here is the rub-According to the U.S. Commerce Department, women represent 48% of today's workforce, yet only 24% are in STEM fields. Specifically, Anita Sendgupta, PhD in aerospace engineering reports women are underrepresented in aerospace careers as men make up 87.4% of all aerospace engineers.. Women make up only 19.7% of degrees in engineering technologies and only 18.7 % degrees are in computer sciences.



Brooke Owens Class of 2019 Summit



BROOKE OWENS FELLOWSHIP

PAID

INTERNSHIPS & EXECUTIVE MENTORSHIP

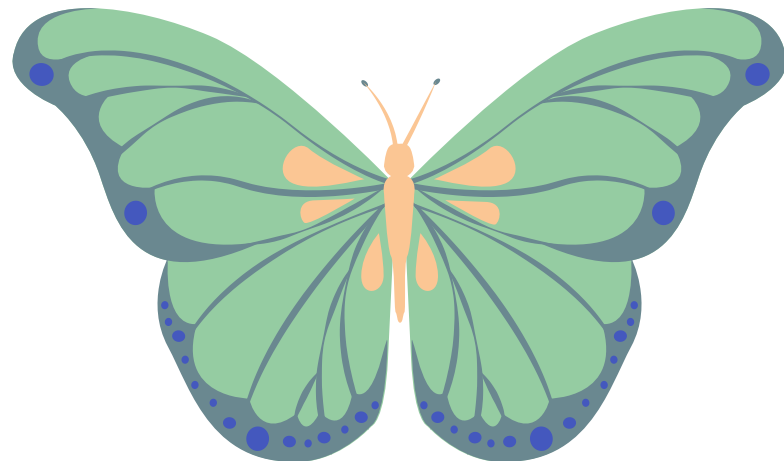
Created to honor the legacy of a beloved space industry pioneer and accomplished pilot, Dawn Brooke Owens (1980 - 2016), the Brooke Owens Fellowship, 501 (c) 3, is designed to serve both as an inspiration and as a career boost to capable young women and other gender minorities who, like Brooke, aspire to explore our sky and stars, to shake up the aerospace industry, and to help their fellow people here on planet Earth. We do this by matching up to forty students per year with purpose-driven, paid internships at leading aerospace companies and organizations and with senior and executive level mentors. [Learn More & Donate](http://www.brookeowensfellowship.org)

www.brookeowensfellowship.org



70TH INTERNATIONAL ASTRONAUTICAL CONGRESS

Brooke Owens Fellows





SHE IS THERE FOR HER

Women make up 57 percent of the workforce, but only 15 percent of engineers and 25 percent of computer professionals. These women are working to change that, one achievement at a time.

In an ever-changing and increasingly complex world, it's more important than ever that our nation's youth are prepared to bring knowledge and skills to solve problems, make sense of information, and know how to gather and evaluate evidence to make decisions. These are the kinds of skills that students develop in science, technology, engineering and math—disciplines collectively known as STEM. (U.S. Dept. of Education)

"You must see it to be it."

Role models, community activist, and mentors are all the roles women play for each other. We step up to ensure women advance in Science, Technology, Engineering & Mathematics (STEM) fields.

Latinas in STEM is an organization that deserves our attention and Kudos. Named California's non-profit of the year in 2017, Latinas in STEM provide girls K-12 with curriculum and opportunity to embrace STEM knowledge in underrepresented communities. Their goal is to not only to educate students, but also their parents so that they may be better positioned to support their daughters .

Learn more and donate today!
<https://vimeo.com/102756400>

"Our goal is to inspire young women to consider STEM careers"



COBALT MAGAZINE

YEP

Young Emerging Professionals
in Technology

***We want to
tell her
story!***

Send all shout-outs to
rdmcdougal@thecobaltmag.com

PASSION INSPIRED-TECHNOLOGY ENABLED

INTERSTELLAR DREAMS

EXPLORE IMAGINE DESIGN

New!



Ready-to-Go kits come with 6 lessons, materials and gifts for 20 youth

*Journals Pencils
T-shirts Backpacks*



THE PEARL PROJECT
INSTITUTE FOR INNOVATION
IN STEM LITERACY

**STOP WAITING FOR A
S.T.E.M. PROGRAM**

Learn More and Donate Today!

**START YOUR OWN
RESERVE YOUR SEAT
NOW!**

Launch an Interstellar Dreams program for your community. We will help you start an after-school program, weekend enrichment event, or a summer S.T.E.M. camp for kids ages 6-18 years old.

www.thepearlprojectinstitute.org

MATTHEW ISAKOWITZ FELLOWSHIP PROGRAM

Now accepting applications for
SUMMER 2020!

APPLICATIONS DUE DECEMBER 2, 2019



ARE YOU
PURSUING A
CAREER IN
COMMERCIAL
SPACE
INDUSTRY?

The Matthew Isakowitz Fellowship Program is a non-profit 501 (c) (3) organization launched to honor the memory of a beloved young man who was passionate about commercial space exploration. The Fellowship program seeks to instill enthusiasm into the next generation of space exploration leaders by providing impactful career training and internships. The Matthew Isakowitz Fellowship Program is a highly selective internship and mentorship program that provides extraordinary summer opportunities to current college juniors, seniors and graduate students passionate about commercial spaceflight. applications available at: <https://www.matthewisakowitzfellowship.org/> Learn More & Donate

LEADERSHIP WISDOM

“ ALL LEADERS AND
VISIONARY'S ARE CRITICIZED.
DON'T LET CRITICISM WORRY
YOU. WORRYING ABOUT WHAT
OTHERS MIGHT THINK CAN
DILUTE YOUR JUDGEMENT AND
EFFECTIVENESS. OWN AND BE
CLEAR ABOUT YOUR VISION.
BE DECISIVE, DON'T DWELL OR
AGONIZE OVER A FINAL
DECISION. DON'T OVER
EXPLAIN YOUR FINAL
DECISION, OWN IT AND THEN
TURN THE PAGE. ”

Anna Wintour, Vogue



Residential Living in 2020

Exo Apartments, Reston, VA

Image by Robin McDougal

Urban Dwelling

So, you are thinking about moving. Not only are you considering moving, you are considering an urban experience. Whether you are selling your home, moving away from your folks, or simply relocating due to a career change, a variety of apartments are waiting for you.



Chicago-Millennium on LaSalle

According to Michael Alarcon of Apartment Guide, apartment options and amenities have never been better due to technology. "Thanks to smart tech, renters live a far more efficient, safe and comfortable life than those who rented just 5 years ago," says RentPath Director of Research Angie Amon. Virtual Personal Assistants (VPA) are at the heart of the new level of comfort and security. According to Gartner, 85% of a home ecosystem will include a VPA (Amazon Echo or Google Home) by 2020. A connected home ecosystem occurs when a home has multiple smart home devices interconnected via VPA or wi-fi.

"Thanks to smart tech, renters live a far more efficient, safe, and comfortable life..."

A nationwide survey conducted with Wakefield Research of 1,000 U.S. renters in multi-family dwellings. Results include a desire for tech upgrades and the integration of next-generation access control systems as critical elements to entice renters. Of millennial renters who live in multi-family dwellings, 86 percent are willing to pay more for a "smart" apartment, meaning one that is equipped with automated or remotely controlled devices. Some of the popular features include, smart window, smart locks, smart thermostats, and smart lighting

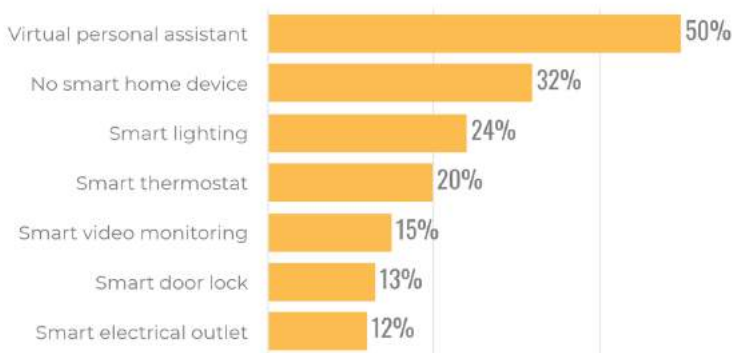
- Smart Locks: smart lock are programmable. Energy Efficient: Nest Learning Thermostat boosting a 12% savings in electricity for heating

- Security: By connecting to a smartphone, smart lights allow tenants to turn on their lights remotely, so they return to a bright, welcoming space.

- App controlled natural light: Intelligent windows adjustable settings app will ensure the optimal amount of natural light while blue tint is rejects unwanted heat

- Self-Care: Amenities like yoga classes, resort inspired meditation gardens, indoor/outdoor pools, penthouse lounges, in-house fitness equipment, and pet care.

Devices Already Owned by Renters



N = 335

Software Advice



Chicago-NEMA Sky Terrace



NUTRITION

Diary of an Herbalist



Mobile & Organized

by Jocelyn Johnson Clinical Nutritionist



I hadn't ever thought about technology or how it impacts my daily life, until today. It's such an integral part of day to day; I have two smart phones, a tablet, desktop, and my laptop that I use for a variety of task for each of my operations I perform throughout the day. It's funny because if anyone had told me how reliant I would be on the latest gadget, app or touch bar on my laptop, I would've told them no way, I'm too busy to learn about the internet. It was in the last 10 years that there has been an explosion of apps for posting photos. Now with the launch of Facebook, Instagram, snap chat, this list is growing by the day. Now I use my tablet in my studio to take payments, keep records, and to post to the my new social media account.

As I build my nutrition and herbal medicine clientele, I realized that record keeping was going to be the key to my success. I'm constantly writing recipes for my nutrition clients. I typically store many of these delectable recipes files in **PAGES**, a Mac app similar to Microsoft Word; storing recipes in **PAGES** allows me to tailor each recipe to the client. When I have a client that is a vegan/vegetarian or one that is on a strict paleo diet, I'm able to remove items that will not comply with their diet restrictions. I make sure to take notes on what works for each individual so I can pass on suggestions to new clients.



Building my herbal formulations for my topical herbal product line, I save these formulas in one of my favorite apps of all time Microsoft OneNote! I love it because its intuitive, and I can save notes on various formulas, as I try new herbal combinations, I can keep each mock-up formula in separate files within a specific notebook, allowing me to chronicle my progress.

SAVOR

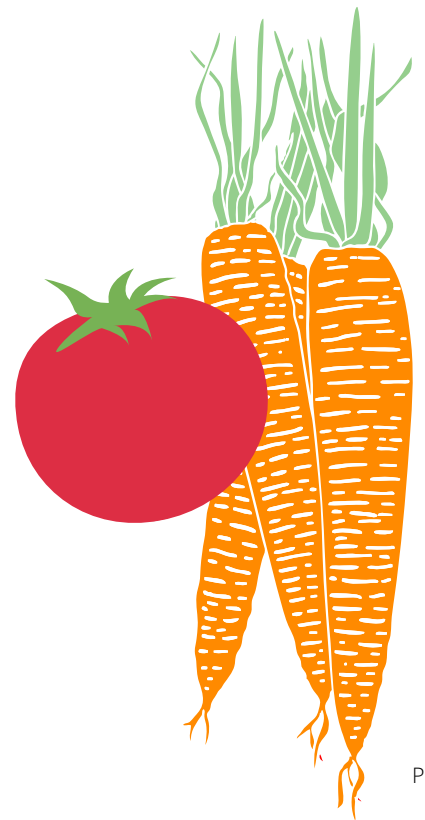


SALMON & A SIMPLE SALAD

SALMON & SIMPLE GREEN SALAD



THE POWER OF PROTEIN
GRILLED, POACHED
OR BAKED





**“...LET THY FOOD BE
THY MEDICINE...”
-HIPPOCRATES**

Developing an up and coming product line is scary, I'm keeping organized and following FDA regulations through my record keeping and development of my good manufacturing practices (GMPs). Let me not forget to mention one of the best DIY design apps Canva, a free app for the basic design capabilities. I will occasionally purchase a design for as little as \$1 US dollar. This is a brilliant option for branding, by making flyers, labels and logos, until I hire the right graphic artist. I know the more I grow each of my small businesses, the more I will rely on the various apps that are available for record keeping.

Within six short months I will earn my CNS (Certified Nutrition Specialist) certification. Soon, Trillium & Lotus whole body wellness website will be available. This is where you will find new client forms, nutrition blogs, and a list of my services. The key to my HIPPA compliance is an encrypted email and G Suite account where I will store client forms such as intake forms, release forms, HIPPA compliant forms, and recommendation paperwork, ensuring that each client's personal information is safe and secure.

Looking Forward

I can't wait to see what new app, or social media site that is on the horizon for me and my new found career path....

**Jocelyn Johnson, MSN & MS
Therapeutic Herbalism
Mobile: 202.255.6895
email: jocelyn225@gmail.com**



BLAZE

AN ONLINE ACCELERATOR FOR ENTREPRENEURS



FANNING THE FLAMES OF
INNOVATION

2020



THE PEARL PROJECT
INSTITUTE FOR INNOVATION
IN STEM LITERACY



CONTRIBUTORS

many thanks

ROBIN MCDOUGAL

CEO of e-GLAM, Inc.

***THE EDITOR-IN-CHIEF
COBALT MAGAZINE***

ERICA BOURNE

***IT PROJECT MANAGEMENT
AND SOFTWARE ENGINEERING***

Erica Bourne has over 14 years of professional experience in IT Project Management and Software Engineering. She earned a Bachelor of Science degree in Computer Science with a minor in Mathematics from Florida State University and is currently pursuing a Master of Science degree in Project Management from The George Washington University.

TINA GANTZ

***FOUNDER & CEO GLOBAL
FRANCHISE ASSOCIATES***

Tina Gantz is CEO and founder of Global Franchise Associates, a boutique franchise brokerage and consulting firm that teaches people how to buy and sell franchises. Tina is a serial entrepreneur with over 25 years of diverse business experience in Fortune 500s, non-profits and the small business community.

JOHANNA BROWN

AUTHOR & JOURNALIST

Johanna Brown is a writer and retired civil servant from Brooklyn, New York. She has written a coming of age novel and has her finger on the pulse of retired baby boomers.

Jocelyn Johnson

***Clinical Nutrition and
Therapeutic Herbalism***

Jocelyn began her career in holistic nutrition with a Bachelor of Science in Nutrition & Culinary at Bastyr University. Recently she completed a dual track master's degree in Clinical Nutrition and Therapeutic Herbalism at Maryland University of Integrated Health.

Swathi Young

Founder of TechNotch solutions

Swathi Young is the founder of TechNotch solutions, a technology strategy and management consulting company. Previously held leadership positions at Amtrak, SunGard and Oracle. Her work across a wide variety of industries - supply chain, Hi-Tech, transportation, and finance, as well as geographies - Belgium, India and the United States, has served as a fuel to implement innovative solutions. She believes that the intersection of Artificial Intelligence and humanities is important to focus on as we lay the foundation of AI applications for future generations.