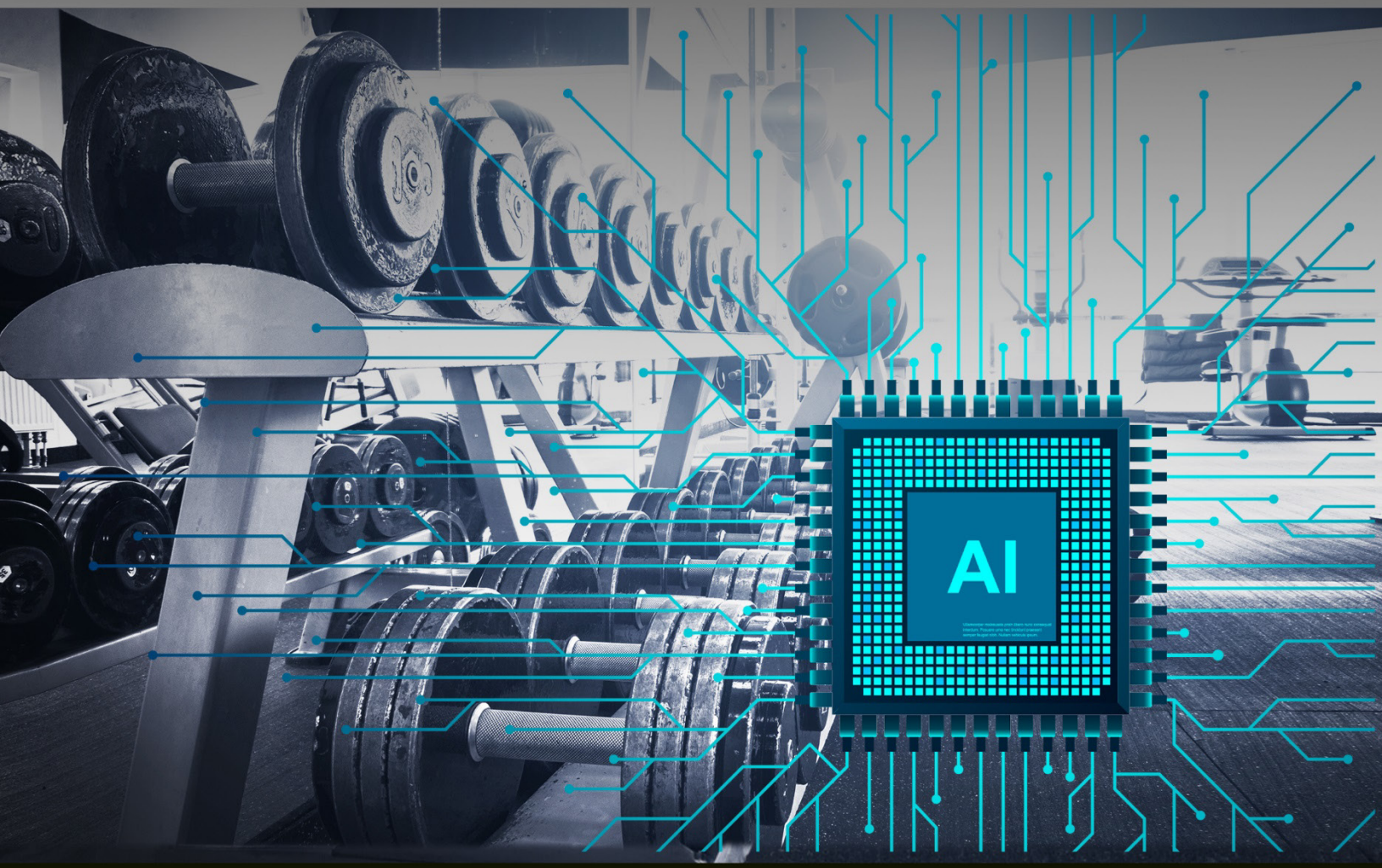
ARTIFICIAL INTELLIGENCE REPORT

2023



ERIC MALZONE

THE FUTURE OF FITNESS

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INTRODUCTION

Artificial Intelligence could very well be the greatest technological advancement in human history. We're staring up at the hockey stick curve of advancement and there is no shortage of anticipation, angst, excitement, and uncertainty. It's revolutionizing industries left and right, and you better believe the fitness, health, and wellness sectors are bound to feel its impact.

The potential of AI across our industies is mind-boggling. Think personalized workout plans, smart nutrition guidance, virtual health monitoring, and even predicting diseases before they hit. In this report, I've surveyed five thought leaders and entrepreneurs from various sectors of the industry. They provide powerful insights into how they currently leverage the technology, what they foresee for the industry, and how they feel about the existential realities for our species.

Personally, I'm in the cautiously optimistic camp. I believe that the more conversations we have about AI and increased awareness around the topic, the better off we'll be. If you find these types of insights valuable and thought-provoking, I urge you to get subscribed to the Future of Fitness podcast to keep your edge sharp.

Thanks for joining the conversation.

Eric Malzone

THE QUESTIONS ASKED OF EACH EXPERT

1. How are you currently utlizing AI/ML?
2. What is one way you that believe AI will definitively change the fitness industry within 10 years time?
3. What practical advice and guidance can you give people within the fitness industry regarding the usage of AI/ML?
4. On the scale of 1-10, from Skynet to Utopia, where do you sit on the spectrum of optimism for AI's impact on humanity?

KARINA VAZIROVA

FemTech Lab
Co-Founder
London, UK

Karina Vazirova is the co-founder & CEO of FemTech Lab, a global innovation hub for female health and wellness.

[The FemTech Lab Accelerator](http://femtechlab.com) has helped 70+ early stage startups take their products to market and pitch to investors. In addition to the accelerator, FemTech Lab organises [Decoding The Future of Women](http://d3cod1ng.com) - a futuristic conference about female health attracting 500+ attendees during London Tech Week.

Prior to FemTech Lab, Karina built and took to market over 30 AI-products in the US, Australia, Europe and the UK. She is also an ex-professional chess player who experienced the power of AI first hand through Deep Blue and other chess engines.

https://www.linkedin.com/in/karinavazirova/

1

We manage 500+ stakeholders and a community of 20,000+ with just a team of four. Efficiency is a necessity for us, and with ChatGPT entering the scene, our team jumped on it immediately. At first, the two main uses were: (1) writing (generating 1st drafts for emails, marketing copy, etc) and (2) image generation using Midjourney. Both have been massive time and resource savers, but are just the scratch of the surface of what is possible.

We are now exploring integrations with Airtable to streamline our Admissions Process into the Accelerator, where we meticulously process over 100 startup applications to select the best 15.

On a broader scale, we are investigating how we can support early stage entrepreneurs with access to data sets to run experiments and come up with new propositions in women's health.

2

In women's health, I think that some of the immediate breakthroughs will be in diagnostics. There are many women's health conditions that we are still not able to properly diagnose early on and therefore properly treat. For example, endometriosis and cervical cancer. Another example is infertility (both male and female). 1 in 6 couples struggle to conceive and reproductive technology is a current hot spot for investment in innovation.

I also hope that AI will democratise access to healthcare and health education globally, especially in parts of the world where women have less rights and liberties.

3

Every tech entrepreneur should be aware of the recent developments in AI, not every tech entrepreneur should be implementing it.

AI follows data, not the other way around. If you are looking to implement AI into your product, consider *first* where and how you will obtain the data to train it.

If Data is the King, UX (user experience) is the Queen.

Hire at least a few tech-savvy system thinkers so that the mindset of automating and optimising operations with AI is embedded in your culture.

4

I am a tech optimist in general, so I am at 8 :)

When I was playing chess as a young teenager, I did not always have access to a chess coach. I used chess engines to help me train for tournaments, analyse my games, learn and get better faster than some of my peers with the best human coaches out there. I might not be where I am today without the boost that AI offered me.

That is where I believe the true opportunity lies - AI being able to augment human intelligence and help us solve some of our biggest problems: create new medicines, solve climate change, provide access to healthcare for those in need, prolong healthy human life-span and much more!

IAN MULLANE

KeepMe
Founder & CEO
London, UK

When it comes to technology and its increasingly pivotal role in the fitness sector, there are few speakers more thought-provoking than AI expert and self-professed geek Ian Mullane.

As the founder and CEO of AI-powered sales and retention platform Keepme, Ian has brought together the diverse expertise of his career to date – including 12 years as an operator – in a ground-breaking business that boosts revenues for gym operators across the globe, harnessing the power of artificial intelligence to drive optimization and transform the way they interact with customers and prospects.

Diving into a little more detail, having spent 15 years working on fintech solutions for some of the world's largest hedge funds and investment managers, in 2007 Ian founded Vanda.fit – Singapore's first boutique boxing club – and alongside this, in 2012, the social media analytics platform Locowise.

It was at Vanda.fit that he identified the need for a system that would optimize the performance of his club; his expertise in tech and AI led him to develop Keepme, which since 2020 has become his full-time focus (some might say mission!)

A respected thought leader, white paper author, regular industry event speaker and member of the ukactive Digital Futures Council, Ian has a singular ability to first understand the challenges faced by our sector, then demystify the ways in which technology can help neutralize them.

https://www.linkedin.com/in/ianmullane/

Since 2018, we have utilized machine learning to power Keepme, our retention prediction and generative AI platform for fitness operators. Keepme leverages an ensemble methodology called Random Forest to provide highly accurate individual-level predictions of member retention. To date, it has been deployed 300+ times globally.

More recently, we added Keepme Creator which utilizes generative AI to instantly produce on-brand content for operators. After training on a brand's voice and style, Creator can generate blogs, member messaging, and marketing materials to meet growing demands for custom content. By combining predictive analytics with creative generation, Keepme provides an end-to-end AI solution for fitness brands worldwide.

In the next decade, AI will enable unprecedented personalization and scale for fitness operators. By combining predictive machine learning with generative capabilities of large language models, brands can deliver customized experiences tailored to each member's needs and interests.

For example, ML models can identify members likely to purchase personal training and at what level of engagement. This data can inform LLM-generated content to deliver personalized PT offers incorporating the member's unique preferences. Operators can automatically create round-the-clock opportunities for usage promotions, upgrades, and other customized member interactions.

Rather than taking a one-size-fits-all approach, AI will allow brands to treat each member as an individual. It will automate personalized engagement not previously possible. In ten years, AI may be integral to delighting customers, driving loyalty, and scaling businesses in the fitness industry.

Seek guidance from practitioners actively implementing AI, not just experts opining theoretically. With breathtaking advances, AI is disrupting standard technology frameworks daily. Even year-to-year, new capabilities emerge.

Rather than rely on potentially outdated advice from tech pundits, connect with those practically applying AI in real business contexts. They will provide more grounded, up-to-date recommendations based on hands-on experience.

Also, build foundational knowledge of AI's capabilities and evolution. With rapid change, today's limitations may be tomorrow's opportunities. Understanding the technology's trajectory will allow you to foresee where it could soon benefit your fitness brand.

By learning from practical experts and educating yourself ongoingly, you can pivot with AI to enhance customer experiences, operate more efficiently, and future-proof your business. The fitness industry's use of AI will continue advancing rapidly - prepare your mindset and skills to harness it.

4

I am highly optimistic about AI's potential, so a solid 8. I foresee incredible advances in medicine, physics, engineering, and more that will rapidly accelerate human progress. However, I balance this with some concerns.

As the technology proliferates, bad actors may weaponize tools like generative AI for harmful ends. Certain nations and political groups could leverage AI to nefarious effects. We must remain vigilant against misuse.

Overall though, I am bullish on AI's benefits for humanity. With thoughtful governance and ethics guiding its development, I believe AI can profoundly improve the human condition - curing diseases, elevating creativity, reducing poverty, and more. The challenges are real but surmountable. AI will shape our future; let us steer it wisely.

STEVEN WEBSTER

Asensei
Founder & CEO
San Francisco, CA

A lifelong entrepreneur, technologist, martial artist and coach, Steven Webster is the CEO & Founder of ASENSEI, the leading technology that uses motion capture and human movement recognition to power personalized Connected Health and Fitness experiences.

Holding a 4th degree black belt and two 2nd degree black belts in Ju Jitsu and Karate, Steven is also one of the most successful sports coaches in British University Sport. He captained and then coached Edinburgh University Karate Club to 10 consecutive national championships. Since he moved to California in 2009 with the sale of his first company to Adobe, the club won 8 more titles, under a coaching staff taught by Steven as students.

For Adobe, Steven played a leadership role in the creation of a worldwide design-led consulting organization. Steven was trusted advisor to Adobe's most strategic clients, from NATO and NASA to Nike and the NFL.

Prior to ASENSEI, Steven opened Studio 415 for Microsoft, leading a team of Bay Area designers, engineers and data scientists in an innovation lab designed to ideate and co-create new experiences with strategic customers including Gatorade and Sony. Working alongside colleagues from Microsoft Kinect, XBox Fitness, Cortana and Health Vault, Studio 415 pioneered natural user interfaces with voice and gesture understanding and intelligent digital assistants.

In 2014, Steven left Microsoft to start ASENSEI and lead the creation of the "Movement Recognition and Coaching Intelligence" category of intelligent sports and fitness technology powered by human movement recognition, that would one day democratize and scale access to world-class coaching.

https://www.linkedin.com/in/stevenwebster/

We believe that to personalize health and fitness applications, a machine needs to be able to understand human movement. And that starts with being able to SEE us, and what we're doing.

- We use AI/ML for 3D Computer Vision, using a technology called pose estimation to infer where key points are on the human body, called "pose estimation"
- We then use "depth estimation" to infer the distance each of these points is for the camera lens.
- We're further using "positional estimation" to understand how that skeleton is moving around the room it's in … forward, back, left, right, jumping.
- And we're also combining the above with object classification, and weight classification. So we can tell for instance when you pickup a dumbbell, and infer what weight the dumbbell is using computer vision.

These technologies are necessary, but not sufficient, for a machine to begin to be able to recognize what sport or activity you're doing, how well you're doing it, and then coach you.

2

We will democratize access to world-class coaching, just by having access to a camera or smart clothing that can motion capture our form.

We will be able to train with world-class athletes and coaches as if they are in the room with us, watching us and providing us personalized feedback in their own voice. They will stand in the room beside us, indistinguishable from reality, interacting with us naturally by listening to us and watching us.

Telepresence will allow us to practice alongside others, in virtual and augmented spaces that challenge us and inspire us.

3

Don't get caught up in the hype.

Stay focused on the strategic metrics for your business, whether those metrics are member acquisition, engagement, retention, referals, net promoter score, churn. Continue to focus on business partners including technology partners who can bring you solutions that move the needle on those metrics.

The best and most innovative companies will likely be delivering you solutions that are powered by AI/ML, but that's almost not your concern. Your press release should say you "partnered with ASENSEI to provide a new member onboarding flow in your companion mobile app that removed gymtimidation and increased conversion of digital to in-person members by 25%" not "partnered with ASENSEI to use AI/ML for depth-accurate pose landmark detection powering an expert AI system for coaching intelligence"

Work back from the score.

4

Any new technology can be a force for good and evil. And good has a habit of triumphing.

AI can accelerate drug discovery, while decimating the costs of producing personalized drugs, and allowing us to focus not only on treating diseases that are profitable to treat.

AI can turn terabytes of satellite imagery into actionable insights around deforestation and wildfires, coastal erosion and flooding, speed the rate of climate simulations - it can help us tackle the climate problem. We will give sight back to the blind, hearing back to the death, movement back to the immobilized.

AI will democratize access to world-class education and learning, reimagine how and where and for how long we work, and the nature of work itself. AI is the product of our pace of technological advancement; but AI itself will become an accelerator for that advancement.

To focus on "AI will be the end of us" is dystopian. We choose the side we're on. I choose to believe that AI will accelerate the pace with which we can tackle the real existential problems we invented already.

Indeed it may be the only thing that can help us out of the messes of our own making.

OMRI YOFFE

Vi
Founder & CEO
New York, NY

Omri is the CEO of Vi. He set out to change the Health industry by delivering powerful Enterprise-AI platform, helping healthcare, wellness and fitness enterprises to Maximize Member ROI and Health Outcomes. Before Vi, he founded Clear Cut Aerospace and C4.

Systems, both technology companies that scaled globally. Omri is a former Israeli Air Force pilot, after graduating the flight academy with honors and serving operationally, he was the head of the IAF advanced technologies department. He has also founded a non-profit organization integrating youth from lower socioeconomic backgrounds into the workforce eco-system called OFEK. He is a Northwestern University "Kellogg" MBA international program graduate and a graduate of Singularity University based in NASA Ames.

https://www.linkedin.com/in/omri-yoffe-02a13017/

1

Over the past 7 years we have focused exclusively on the Health industry, building models that help us deeply learn and understand human behavior and understand what are the signals which are going to be most indicative in being able to impact it. Essentially, we apply AI across the member life cycle in four main areas:

- Data digestion and classification of vast amounts of de-identified and anonymous data sets, currently handling over 83 million live members on platforms
- State of the art predictive models specialized in flagging member behavior and patterns
- Outbound communication models specialized in triggering the right CTA (human or digital) intervention/content, to the right member at the right time
- GenAI modules specialized in improving effectiveness and scale of health operators (content production, customer support, billing etc.)

2

The Fitness Industry is sitting on a treasure trove of data. Many organizations don't yet fully comprehend what can be achieved by utilizing their data in a smarter way. Seeing the implicit patterns and triangulating with external data sources is going to change the way that members experience their health and fitness journeys. We want to help organizations go from catering to the average member to tailored acquisition and retention strategies that will impact every moment of their journeys on a 1:1 personalization level.

3

My best advice would be to start small and to not underestimate the amount of useful data they have. I think that many organizations feel overwhelmed by the potential of AI and don't know where to start. I would recommend starting by identifying one part of the member lifecycle, whether that is in better acquisition strategies (less spray and pray campaigns by smarter profiling), better member onboarding experiences, all the way through to how you communicate with your members on an ongoing basis. Be methodical in the way you measure your impact, move away from simplistic measures like cost-per-lead or email opens and really understand if you are changing behavior.

4

That said, with great power comes great responsibility. We've been working on and thinking about AI for the last 7 years, even before GenAI became a dinner table conversation and while some people are overestimating what can be achieved over the next 6-12 months, there is a sea change in how AI is going to impact humanity. AI is positioned to make the best operators even better than before by allowing them to be a lot more intelligent and efficient in the way they engage with their members, but unchecked, there are a ton of unintended consequences which we need to be vigilant about.

JOEL JAMIESON

Morpheus Labs
Founder & CEO
Seattle, WA

Joel Jamieson is widely considered one of the world's foremost authorities on strength and conditioning for combat sports, having trained many of the sports best athletes since 2004. He is the author of the bestselling book "Ultimate MMA Conditioning" and is a contributing writer to several top magazines and a frequent guest speaker at conferences and seminars all over the world.

Joel has worked with and consulted extensively for teams and organizations ranging from Navy SEALS to Life Time Fitness and his BioForce HRV system is used by teams in the NFL, NBA, MLS, NCAA and more. He is best known for an individualized approach that is both based on solid science and yet practical to apply. Joel created 8WeeksOut in 2009 to help clear up the misinformation and confusion surrounding energy systems and since then, the site has become one of the authorities on strength, conditioning and performance.

https://www.linkedin.com/in/coach-joel-jamieson/

1

I've used some core ML algorithms to develop key features within my Morpheus Training app. Primarily, we used ML to analyze the relationship between lifestyle variables, training volumes and intensities, and changes in fitness over time. This provided the foundation for providing people individualized training recommendations designed to help them improve their fitness the most efficiently over time

2

I think AI will likely have the greatest impact in the field of general health in terms of providing an increasingly personalized approach to healthcare and hopefully, this will include preventative care. The use of AI/ML in evaluating how people will individually respond to various pharmaceuticals, nutraceuticals, and other types of treatments will have a big impact on how various diseases like cancer are approached and even the screening process used to detect various diseases as early as possible.

To be honest, I think that when we look at the fitness industry in terms of the population as a whole, it really isn't much of a question of what to do, so much as how to get people to do it. The majority of the people know that they need to be active, workout, eat the right amount of calories, get enough sleep, etc., but the vast majority of the population fails in one or multiple of these categories.

These are human behavioral problems connected to greater challenges within society that I personally don't think can be solved by math, so I'm skeptical that AI will definitively change the fitness industry in a meaningful way that will lead to better outcomes at scale within 10 years.

3

It's always better to be at the front of changes and trends than behind them, so it's important to stay up to date with the latest technology. It's often best to do that by looking at what other industries are doing because fitness tends to move rather slowly to adopt new tech and innovative approaches to problems solving.

4

I think it will be like any other major technological advancement throughout human history, there will be a range of pros and cons. Cars, trains, planes, and mass transportation revolutionized society and our ability to travel, but thousands of people die each year in accidents, it's taken a toll on the environment, and people spend hours of their lives sitting in traffic.

Very few people would say the costs aren't worth the benefits, but I see AI has likely having a wide range of benefits we can probably can't even foresee at this point, but they will also come with costs just like anything else. I think the odds of something like Skynet are incredibly low and we're likely decades away from AI getting to the point that has any potential to be intelligent enough that it could become any sort of real threat on a global scale.

THE FUTURE OF FITNESS