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# AI:10

GET INSIGHTS ON AI UNDER 10 MINUTES

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WHAT'S HOT

## GROWING IN AN "INTEGRATIVE" MANNER? CASE STUDY.

HEADLINE NEWS IN A FLASH

- Artificial intelligence to reduce waiting list for neurology appointments
- China's AI-driven power grid can recover from a blackout in 3 seconds
- Smart Crop monitoring is a smart investment
- How artificial intelligence can be time and budget-saving in recruitment
- AI tackles the challenge of materials structure prediction
- Artificial Intelligence Discovers Alternative Physics

INDUSTRY FOCUS

## 4 HEALTHCARE AI TRENDS: CVS HEALTH DATA SCIENTIST SHARES DETAILS

# GROWING IN AN "INTEGRATIVE" MANNER? CASE STUDY.

## 8 steps laid out by AI under 30mins summarised from a 12-page analytical report

To illustrate the application of integrative growth strategy with AI ventures, here is a case study involving a particular subject company whose core business is Islamic pawn broking with a focus on B2C consumer financing sector. The firm has two other sister companies, one in B2C postal and express delivery service, and second, a B2B consumer and industry product sector.

1. Overall, the firm's overall financial performance is "average" - its topline grew at 8.2% with almost similar profit growth with costs reasonably managed.

2. Due to the nature of the business, the firm's liability exposure is high; however it is largely dependant on short term financing to fund the operations, which resulted in a weak risk score of 48.4% (the higher, the better), with total liabilities exceeding capital by 1.52x.

3. What AI recommended is that the firm should consider extending their heavy exposure of short term financing into long term structure to support its core financing business.

4. It should also try to get more expertise to put more focus on its asset liability management strategy to minimise any balance sheet duration gap especially in a period of inflationary pressures.

5. It should also raise sufficient equity to integrate its B2C postal and express delivery service by merging with similarly-sized or smaller players to consolidate and share a network of resources and shared infrastructure.

6. Its B2B consumer and industry product sector needs to modernise its approach through integrating its backend and front end data platforms. AI as a tool should enable them to look ahead into consumer changing patterns and "not stick to the same method" of selling to consumers. They have so much data to harness - in the past and present time, and look into the future trends and become more dynamic in their pricing and modus operandi.

7. The three entities should also form a special purpose vehicle (SPV) and securitize their contracts into assets, inject them into

the SPV and position for M&A with a company that commands high multiples in the capital markets.

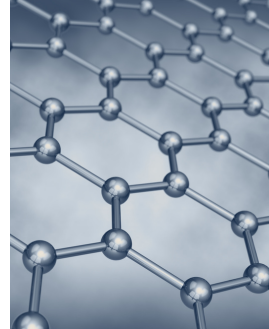
8. They will get rewarded with tech, shares and cash as premium income to their investments, boosting their margins by at least 20% and strengthening their business models to garner higher market share.

This is an example of how the modern #integrativegrowth strategy is done in practice. This is going to be the future of financing for any SMEs or institutions where tech, investments and equity are involved through special purpose vehicles without diluting ownership or losing control of clients.

For the background story, you may click the link here:

<https://www.aiv50.com/2022/07/aiv50-special-edition-chairman-interview-the-new-normal/>

Source: AIV50.com



## HEADLINE NEWS IN A FLASH

### ARTIFICIAL INTELLIGENCE TO REDUCE WAITING LIST FOR NEUROLOGY APPOINTMENTS

The Walton Centre NHS Foundation Trust is working with an IT supplier to apply the latest digital technologies to its operation. In its first project with Tata Consultancy Services (TCS), an artificial intelligence-based chatbot is being developed to reduce the workload of specialists and patient waiting times. The chatbot will complete some of the early information gathering work of specialist neurologists, saving them time and reducing the time it takes patients to get consultations with them. The AI-based chatbot prototype will use cloud-native technologies and conversational AI. It will be able to interact with patients once they are referred to the hospital and, through a set of questions, collect information about symptoms. The answers, combined with a medical history, will be reviewed by clinicians before appointments, which will enable them to make an early assessment. The chatbot will therefore mean the consultants, who are in high demand, won't have to ask the questions at the first appointment.

Source: ComputerWeekly

### SMART CROP MONITORING IS A SMART INVESTMENT

The Jerusalem Post has partnered with ExitValley, a digital platform that enables anyone to invest in Israel's startup ecosystem and share in its success. In this article, we are pleased to introduce MyCrops, an Israeli AgriTech company that enables farmers to maximize yields using AI. MyCrops is a digital agronomist platform that develops advanced deep learning technology and utilizes AI-powered cameras to scout cultivation issues 24/7. The platform is designed to prevent crop loss and get plants on track to maximum yield, with smart crop monitoring tools that deliver insights from day one. The company was founded in 2017 to help growers detect early evidence of disease in plants, using image processing algorithms and computer vision. "We operate in the greenhouse market, where it is impossible to perform aerial imaging using drones or satellites," says Levy.

Source: The Jerusalem Post

### AI TACKLES THE CHALLENGE OF MATERIALS STRUCTURE PREDICTION

Researchers have designed a machine learning method that can predict the structure of new materials with five times the efficiency of the current standard, removing a key roadblock in developing advanced materials for applications such as energy storage and photovoltaics. The researchers, from Cambridge and Linköping Universities, have designed a way to predict the structure of materials given its constitutive elements. The arrangement of atoms in a material determines its properties. The ability to predict this arrangement computationally for different combinations of elements, without having to make the material in the lab, would enable researchers to quickly design and improve materials. This paves the way for advances such as better batteries and photovoltaics.

Source: Phys.org

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### CHINA'S AI-DRIVEN POWER GRID CAN RECOVER FROM A BLACKOUT IN 3 SECONDS

China's state-owned power grid company launched the nation's most powerful AI for electricity distribution on Tuesday, according to Science and Technology Daily. Following a community blackout it usually takes six to 10 hours to fix the problem and resume power supply, the report said, but artificial intelligence cuts that down to three seconds. A month-long test run at Qitailu, a residential community with more than 200 families in Urumqi in Xinjiang region shows the system's effectiveness, according to the report. The Qitailu community power grid has more sensors than anywhere else in the country, and each sensor has its own "brain" that can decide the routes of power supply without human intervention. The application of AI-driven power grid technology would quickly expand from Qitailu to other communities, local authorities said.

Source: South China Morning Post

### HOW ARTIFICIAL INTELLIGENCE CAN BE TIME AND BUDGET-SAVING IN RECRUITMENT

AI in recruitment refers to the use of automation in talent acquisition processes, in which AI's machine learning is trained to model and select your ideal applicant and automate every possible manual job in the recruitment process. As the market for recruitment software has seen demand over the decade, the usage of AI in recruitment, though nascent, is showing a promising penetration. While just 10% of firms presently use AI in recruiting candidates, 36% anticipate using AI ML for their recruitment automation process in the next two years, according to a Carmichael Fisher study. To clarify, typically, the selection of candidates for available positions is a time-consuming, manual procedure. The recruiting process took days, if not weeks, from publishing job opportunities in newspapers and digital platforms to manually comparing candidates for the role as per the job requirements to looking for profiles using keywords on job site databases or selecting a suitable candidate for the job.

Source: Dqindia

A new Columbia University AI program observed physical phenomena and uncovered relevant variables—a necessary precursor to any physics theory. But the variables it discovered were unexpected. Energy, Mass, Velocity. These three variables make up Einstein's iconic equation  $E=MC^2$ . But how did Albert Einstein know about these concepts in the first place? Before understanding physics you need to identify relevant variables. Not even Einstein could discover relativity without the concepts of energy, mass, and velocity. But can variables like these be discovered automatically? Doing so would greatly accelerate scientific discovery. This is the question that Columbia Engineering researchers posed to a new artificial intelligence program. The AI program was designed to observe physical phenomena through a video camera and then try to search for the minimal set of fundamental variables that fully describe the observed dynamics.

Source: SciTechDaily



# 4 HEALTHCARE AI TRENDS: CVS HEALTH DATA SCIENTIST SHARES DETAILS

Eugenio Zuccarelli, an innovation data scientist at Rhode Island-based CVS Health, didn't set out on a career in AI because he wanted to work in healthcare. He simply wanted to do work that benefits people.

"For the past few years, I've been working on human-centric AI – using and analyzing data to help impact people's lives and society," he said. "I'm not specifically only interested in healthcare, but I think it's a great way for us to have a strong impact on people's lives."

Eugenio Zuccarelli, an innovation data scientist at Rhode Island-based CVS Health, didn't set out on a career in AI because he wanted to work in healthcare. He simply wanted to do work that benefits people.

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He is currently working on a predictive model that can identify the onset and course of these

chronic diseases, and is already in use by dozens of large companies and some federal organizations. The solution helps understand patient risks, monitors therapies and improves medical decision-making.

"Everything we do on the innovation side is about creating products," he said. "We commercialize these innovative AI solutions and sell them to some of the biggest companies in the world."

VentureBeat asked Zuccarelli for his thoughts on some of the top trends he sees in the healthcare AI space. These are four he considers top-of-mind across the industry:

## AI-driven personalized healthcare solutions

There has long been growing interest in the healthcare industry to move toward personalized medicine, which uses genetic or other biomarker information to determine patient treatment decisions. But organizations are using AI to personalize solutions based on everything from behavior to lifestyle.

"It's about how we can develop personalized solutions that are unique for each individual," said Zuccarelli. "For example, one person might be at a higher risk of worsening of diabetes or hypertension because of the wrong diet. Other people might not be taking the right medicine."

An AI-driven solution can drive personalized recommendations to each person, depending on where there are gaps in care.

Zuccarelli compares it to Netflix, as a solution that offers tailored recommendations to specific users.

Overall, Zuccarelli maintains that personalized medicine will completely revolutionize healthcare – and AI and data will be the tools that support that shift.

"I strongly think that doctors will always be the most important component in healthcare and the patient journey, but it's not going to be a 'one size fits all' – it's going to be about tailored solutions," he said.

## Ethical healthcare AI applications

While the focus on AI throughout the past few years has often been around creating better-performing, more-accurate models, Zuccarelli says healthcare organizations are increasingly focused on how applications relate to the people that use and are affected by them.

"That's why ethical AI is such a huge component, especially in healthcare, where privacy, fairness and ethics are so important," he said. "Every day, we see AI applications that could be done better if we thought about how powerful they are as tools and how they should have guidelines and an understanding of the cost of bias."

Even in a regulated industry such as healthcare, there is still much to work on with data from an ethical standpoint, he adds, pointing out that many companies and research institutions can (and do) use models without any oversight around bias or discrimination that may exist, related to ethnicity, age or other issues.

"Figuring out these nuances and how to make the system better will be one of the most important components for the [healthcare AI] industry going forward," he said.

## Interoperability of healthcare data

Hospitals, companies and individuals have a tremendous amount of health-related data, but that data lacks interoperability. That is, data often lives in different types of systems, through a variety of vendors, or even simply exists on pieces of paper, and therefore the data cannot communicate with each other, said Zuccarelli.

"I think that's one of the most important components that still needs to be leveraged and resolved," he explained. "Once there is a solution to interoperability of data, healthcare AI will get a significant boost."

AI can help with resolving these issues – not the algorithms themselves – but how they are used and created. Federated learning, for example, is a technique that trains an algorithm across multiple decentralized edge devices or servers holding local data samples.

"Instead of moving the data around and fitting it into the model, you're taking the model and moving it into all the locations where data is stored," he said. "So the data can stay where it is, and the model can still have access to all the data."

## Impact of big tech players getting into healthcare

"It's going to be very interesting to see," said Zuccarelli responding to Amazon's announcement last week that it will acquire One Medical, a network of more than 180 clinics, for nearly \$4 billion. After its push into the pharmacy space in 2020, it's clear that the company is trying to become a leader in the health space, he explained.

"The more players in this industry we can have, especially tech players, it will probably move the whole sector forward when it comes to finding healthcare technology solutions," he said.

Healthcare, he pointed out, is an industry historically interested in privacy and data ownership, he added.

"So it's going to be very interesting to see how Amazon will be able to guarantee privacy, perhaps help interoperability and also allow the healthcare system to thrive."

## A healthcare AI 'holy grail'

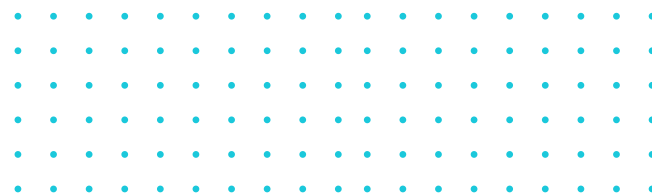
Zuccarelli says if he could choose his own 'holy grail' project, he would tackle the data interoperability issues in healthcare.

"I would probably try to solve that because there is a huge amount of data just in CVS Health," he said. "It's certainly one of the biggest healthcare companies in the world, but it's one single private company. If we were able to make a single data framework where we had the ability to share data from hospitals across the world with privacy intact, we would have the ability to improve the health and wellbeing of so many people."



Eugenio Zuccarelli, innovation data scientist at CVS Health

Source: Venture Beat





# AIV50 COMMENCES 5-YEAR ROADMAP FOR AI VENTURES

**Announces investment and strategic partnership with Raffles Financial (RFG) to prepare portfolio companies for listing and M&A**

You can check out all the media feature at this link:  
<https://bit.ly/aiv50-media-feature>



For further details, please email

→ [VENTURES@AIV50.COM](mailto:VENTURES@AIV50.COM)

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