AI:10

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MAJORITY OF INTERNAL AUDIT GROUPS SLOW TO ADOPT NEXT-GEN TECHNOLOGIES AND UPSKILL; AT RISK OF BECOMING OBSOLETE, ACCORDING TO PROTIVITI SURVEY

According to Protiviti's 2021 Next-Generation Internal Audit Survey, most of the chief audit executives (CAEs) and senior internal audit leaders surveyed reported that their teams are still in the early stages of, or have yet to embark on, their next-gen internal audit journeys. However, amidst the digital acceleration perpetuated by the COVID-19 pandemic and as internal audit teams face a more disruptive environment and demands to add value to their organizations, the positive news is that 66% of survey respondents report plans to increase their focus on innovation and transformation initiatives.

The benchmarking survey polled 874 executives in the first quarter of 2021, including CAEs and audit managers and directors across industries globally. Sixty percent have revenues of $1 billion or more. The survey revealed that only 14% of respondents identified their internal audit department as a "digital leader" -- characterized as reaping benefits of next-gen internal audit practices given their higher reported levels of maturity in governance, methodology and enabling technology. These digital leaders clearly stand out as having greater skills and capabilities for aligned assurance, as well as an agile audit approach and technology and data usage. The survey also found 72% of digital leader organizations report having been well prepared for the shift to a remote working model at the onset of COVID-19, compared to only 51% of all other organizations.

"COVID-19 laid bare the urgent need for internal audit groups to adopt technologies and upskill in order to be a more strategic partner..

...and advisor to their C-suites, boards and audit committees," said Brian Christensen, executive vice president, global internal audit, Protiviti. "Internal audit must be able to leverage technology to deliver comprehensive analysis and insights on today's constantly evolving risk environment -- or they will become obsolete."

AREAS OF LOWEST MATURITY

The survey asked respondents to rate their level of maturity for a variety of next-gen internal audit capabilities across governance, methodology and enabling technology, and identified the following areas as those of the lowest maturity:

1. Machine Learning (ML) & Artificial Intelligence (AI)
2. Process Mining
3. Automation
4. Advanced Analytics

With the four areas of lowest maturity considered part of the "enabling technology" function, the survey reveals a clear lack of recognition of the link between effective governance and use of enabling technologies. Even among these lowest ranked areas, there was a stark disparity between digital leaders and other respondents, with digital leader organizations reporting a maturity level of 6.4 for advanced analytics compared to non-digital leaders who reported an average 3.8 maturity level on a 10.0 scale.

SOURCE: PR NEWSWIRE

ROBOTS HELP SPECIAL NEEDS STUDENTS, ENGLISH LEARNERS WITH SPEECH AND SOCIAL SKILLS

The use of robots with special needs students, especially students on the autism spectrum, is a "game-changer."

The department of special education at St. Vrain Valley School District worked throughout the school year with the Innovation Center's robotics program to help special needs students with social skills by using robots, according to a news release from SVVSD.

A project team of high school students developed Socially Assistive Robotics applications at the Innovation Center. In January, they partnered with teachers and staff at five district schools and used robots to support special education students with self-regulation, self-determination and socialization, according to Mari Stevenson, SVVSD special education area coordinator.

"It's a collaboration and partnership between the Special Education Department, (special education) teachers, technology teachers, Innovation Center staff and (high school) student designers, all working as a team not only to build (the tools) but elevating the technology integration for all of our kids," Stevenson said.

Since the beginning of the year, student designers have met twice a month to learn how to program the robots and determine what the robot will do and say as it interacts with staff and students, she said.

Teachers worked together to come up with a plan for integrating the robots into the classroom setting, she said, adding that the pilot program was introduced in one-on-one sessions with students.

"Settings are based on student IEP goals … to target skill areas to make a more significant impact," she said. "Some of the students we are using this with are students who have not been responding much to human intervention and are actually responding to the robots."

One student had minimal verbal language skills at the beginning of the term. After three sessions with the socially assistive robot, or Misty, and a teacher facilitator, the student was stringing full sentences together, Stevenson said.

"The student started three weeks ago and now he is actually communicating verbally and more intelligibly to other adults, whereas prior to these sessions, he was not," Stevenson said. "This is just a pilot, and we are already starting to see this (impact), and it's pretty powerful." The use of robots with special education students, especially students on the autism spectrum, is a "game-changer" because they reduce the number of stimuli that can provoke sensory overload, said Axel Reitzig, coordinator of innovation at the SVVSD Innovation Center.

"When interacting with people … the complexity of interactions can sometimes be too much. A robot simplifies that interaction and decreases the anxiety," he said. "Also English language learners don't feel like they are being judged. Their emotional state is much more positive." The intended use of this kind of technology is not to replace anyone but simply to augment the impact of the work already happening, Reitzig said.

"The idea is to figure out what this technology can do better than we do, and this frees us up to do what we do better than the technology," he said. "We can double down our strengths as human beings by leveraging the power of these technologies to take things off our plate."

# NEW TECHNOLOGY COULD HELP FIND WARNING SIGNS OF BREAST CANCER

A University of Canterbury (UC) student has come up with a new computerised method of reading mammograms that could help radiologists detect warning signs of breast cancer. University of Canterbury PhD student Haipeng Li has developed a new computerised method of reading mammograms.

His principal supervisor is Professor Ramakrishnan Mukundan. Haipeng Li is about to complete a PhD in Software Engineering at UC after spending the last three years working on computational algorithms that can automatically read and analyse mammogram x-rays. The algorithms he has developed, with UC Professor Ramakrishnan Mukundan and radiologist Dr Shelley Boyd at Pacific Radiology in Christchurch as his supervisors, have been shown to accurately detect two markers linked to increased risk of breast cancer.

"Early detection through routine mammograms plays an important role in preventing breast cancer deaths," Li says. "But reading and interpreting suspicious regions in mammograms is repetitive and challenging work.

"The algorithms I've been working on are designed to make it easier for radiologists to pick up two biomarkers for breast cancer - microcalcifications and mammogram density. Tiny calcium deposits in the breast and dense breast tissue are both indicators of a higher risk of developing breast cancer."

SOURCE: FOREIGNAFFAIRS.CO.NZ
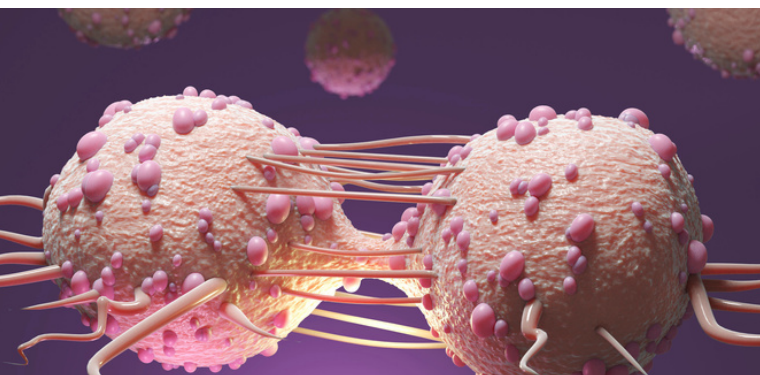
USPS TURNS TO AI AT THE EDGE TO BOOST PACKAGE PROCESSING

An edge artificial intelligence platform recently implemented by the U.S. Postal Service is helping federal insiders trace the many millions of packages it processes each week in a matter of hours instead of multiple days. Open-source software from Nvidia is also delivering AI models to make more use of data collected in systems at 195 Postal Service sites across the nation, the company confirmed Thursday, 6 May 2021.

The Postal Service hasn't generally been associated with speedy deliveries, and the pandemic spurred major delays for "snail mail" over the last year. Still, officials said it's now tapping AI-driven techniques to complete its mission quicker and more effectively. In separate exchanges this week, Robbins and a Postal Service spokesperson briefed Nextgov on this tech-centered deployment and what might follow.

In 2019, a federal data scientist was struck with an idea to place edge AI servers in Postal Service processing centers' systems in an effort to gain and share more data points and insights from the billions of images that were generated as items zipped through to their destinations.

SOURCE: NEXTGOV.COM

SGX TO USE AI, OTHER TECH SOLUTIONS FOR OVERSIGHT OF LISTED COMPANIES

Singapore Exchange Regulation (SGX RegCo) announced on 6 May 2021 that it will be introducing the use of artificial intelligence (AI) and other regulatory technology (regtech) solutions to enhance its oversight of listed companies.

It said these solutions will help to automate the extraction of data that can be used to compute "certain indicators of financial risks" based on SGX RegCo's observations of indicative signs of possible financial distress or irregularities in listed companies.

Such indicators include the existence of long outstanding trade receivables, significant asset write-offs, as well as low cash coverage ratio and negative working capital, among others. SGX RegCo said it is expanding its regtech solutions to eventually include machine learning techniques and additional information sources, with a view to improving predictive capabilities in these areas.

SGX RegCo chief executive Tan Boon Gin said: "Using artificial intelligence and other technology, SGX RegCo is adapting information from companies' disclosures into structured data that can be analysed and used easily and speedily.

"The automation of such processes directs regulatory resources to higher-risk areas and enables us to be more targeted in our regulatory responses."

SOURCE: THE STRAITS TIMES

A new survey reveals blockchain and cryptocurrency to be among the top priorities of companies exploring deep-tech solutions for their business.

Blockchain is seen as a major area of interest among enterprises looking to invest in deep-tech solutions, a new report suggests. An industry-wide survey conducted by quantum computing firm Seeqc reveals that 67% of executive decision-makers fear falling behind competitors when it comes to emerging technologies.

DEEP TECH: WHY C-SUITE EXECS ARE PURSUING BLOCKCHAIN

With this in mind, 57% of large enterprises are actively developing deep-tech solutions in order to solve specific business problems, and blockchain is among their top five areas of interest.

"Deep tech" is an applied technology that aims to solve previously insurmountable problems using new scientific techniques.

The report by Seeqc reveals machine learning and artificial intelligence to be the main areas of interest for firms pursuing deep-tech solutions, with 50% of respondents naming them their number one concern. The next most common deep-tech application prioritized by companies is 3D printing on a large scale (35%), followed by renewable energy solutions (34%) and quantum computing (34%).

Some 32% of respondents highlighted blockchain and cryptocurrency as their main focus, ahead of drones and advanced robotics (29%), climate change mitigation (29%), satellites and space technology (25%), autonomous vehicles (23%), and neuromorphic computing (23%).

When queried as to why they were pursuing deep-tech implementations, a majority of respondents said they had witnessed competitors making inroads in the space and felt compelled to keep up.

SOURCE: THE COINTELEGRAPH

# COMPANIES GET CREATIVE IN HUNT FOR AI TALENT

Surging demand for artificial-intelligence talent is pushing businesses to get more creative in their recruitment efforts. Companies are sponsoring AI award programs at universities, holding "datathons" and scouting software development contests, among other initiatives, as they compete for data scientists, machine-learning developers and other AI professionals.

"You've got to be creative about finding people that care about more than just money," said Peter Krensky, director, analyst on Gartner Inc.'s business analytics and data science team. Any company can be outbid for top AI talent, he said.

Companies are employing traditional means of finding talent, such as recruiters and internship programs, but, he said, that is not enough with today's heated competition. There were 37,000 AI job postings in the first quarter of this year, up more than 45% from the fourth quarter of 2020, according to IT trade group CompTIA, which analyzes employer job posting data.

JPMorgan Chase & Co. said it is looking for hundreds of AI professionals—data scientists, AI researchers and others—although it declined to be more specific. JPMorgan Chase has found that one of the best ways to recruit is to build deep relationships with university computer science and AI programs, according to Apoorv Saxena, global head of AI technology at the bank.
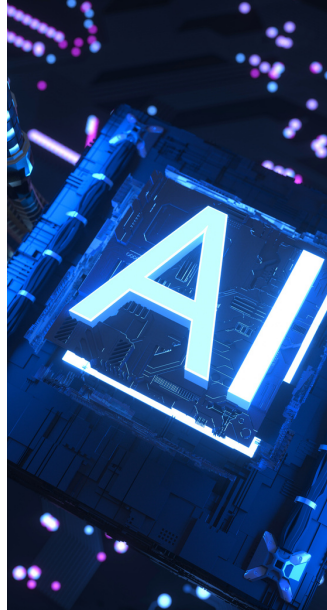
PROPER DATA HYGIENE CRITICAL AS ENTERPRISES FOCUS ON AI GOVERNANCE

Today's artificial intelligence/machine learning algorithms run on hundreds of thousands, if not millions, of data sets. The high demand for data has spawned services that collect, prepare, and sell them. But data's rise as a valuable currency also subjects it to more extensive scrutiny. In the enterprise, greater AI governance must accompany machine learning's growing use.

ML data headaches - As ML algorithms take on text, images, audio, and other various data types, the need for data hygiene and provenance grows more acute. As they gain traction and find new for-profit use cases in the real world, however, the provenance of related data sets is increasingly coming under the microscope. Questions companies increasingly need to be prepared to answer are:

- Where is the data from?
- Who owns it?
- Has the participant in the data or its producer granted consent for use?

These questions place AI data governance needs at the root of ethical concerns and laws related to privacy and consent. Laws related to privacy and consent concerns are gaining traction. The European Union's General Data Protection Regulation (GDPR) gives individuals the right to grant and withdraw consent to use their personal data, at any time. Meanwhile, a 2021 proposal from the European Union would set up a legal framework for AI governance that would disallow use of some kinds of data and require permission before collecting data.

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A HITCHHIKER'S GUIDE TO AI — A DIFFERENT FINANCIAL WORLD

The reason why the auguring of Artificial Intelligence techniques makes so many people shiver with unease, at the national economy level, is not at all original - it is because the onslaught of mechanization of their core value proposition has so far eluded them. From the dawn of the first industrial revolution to the present day, much of the prevailing wisdom regarding economic advancement has been premised on the seemingly inevitable step-by-step transition from agriculture to industry to services. The world's most economically advanced societies, from where this wisdom usually percolates, are all predominantly service-oriented economies. The greatest proportion of value added in these countries, and consequently, the greater share of employment of people is concentrated in the services sector.

Due to the advances in mechanization achieved in the period since the First Industrial Revolution, both agriculture and industry have been heavily mechanized. As a result, in these sectors, the utility of human resources continuously fell. This resulted in the shift in the employment of human resources away from agriculture and towards manufacturing industry first; and when the latter too started to get heavily mechanized, from heavy industry to services.

Krishnan Unni Madathil, Managing Director and Partner at Bin Khadim, Radha & Co breaks down Artificial Intelligence to its nuts and bolts in non-technical language.

This article discusses the areas of its impact and what the world could look like in 2030 for the economy and areas like finance

But the learning element which transmitted information back from outcomes to influence further decision-making was still unmechanized.

> **This is where the role of professionals and managers stood highlighted in importance. The prevailing theory became that "it is not the manufacture that is important; it is the decision to make that is".**

The effects of the improvements to efficiency and quality, in the form of being continuously forced to adapt or perish, were to be faced not by the decision-makers and the learners but by those engaged in execution.

REAL ESTATE

The real estate sector serves as a barometer for the health of the economy in general. For investors and managers engaged in the real estate sector, the various risks and uncertainties involved in the business can often be nerve-wracking. Entire fortunes can be wiped out overnight from being stuck in the wrong portfolio position at a time of significant market adjustment. Heavy repairs and maintenance costs can often wipe out significant chunks off the profitability of a venture.

In all these areas, the deployment of artificial intelligence technologies can derive significant efficiencies for the venture. From providing precise information regarding market price movements in the real estate sector on a real-time basis; to providing accurate information regarding repairs and maintenance costs and property utility expenses; to providing accurate information regarding customer payments and shortfalls enabling early intervention; to quickly analysing vast sets of data from a large set to identify what is "current" and "hot" in real estate management techniques from a customer perspective, artificial intelligence techniques can provide significant efficiencies for participants in the real estate sector.

- **For real estate managers**, the deployment of artificial intelligence techniques can significantly reduce management overhead costs and enable them to be more proactive to market changes.

- **For real estate investors**, the deployment of artificial intelligence technologies can significantly reduce the "learning" time taken to know about the outcomes on existing investments as well as prospects for new opportunities to invest; and can help predict trends early with a higher degree of fidelity, thereby enabling more efficient real estate portfolio management.

- **For the "user" of real estate** - the occupant - the deployment of artificial intelligence technologies can improve the efficiency of their stay. The deployment of artificial intelligence technologies on similar lines in other areas can help monitor quality-of-life indicators such as air quality, room temperature, particulate count, noise levels etc on an ongoing basis.

CAPITAL ALLOCATION

Just like it has become possible with the deployment of artificial intelligence technologies to identify impending natural disasters early, isolate the area of risk and take precautionary action with much greater chances of success; the use case also appears to be quite valid in the case of impending disasters in the man-made financial markets and the capital allocation industry. Early warning of systemic customer events such as missed payments and check runs through enhanced data collection techniques can alert bankers as to the overheating of the credit markets.

Fraud detection can also be enhanced to levels of precision through the use of transaction monitoring and pattern recognition programs. With the dispersion of data collection and recording devices to larger portions of the population through ever more affordable devices, the practical establishment of credibility stands to get even more affordable and accessible. While the level of credit risk for the recently unbanked may still be high, it will still be lower than the credit risk for those who are entirely unbanked.

This has important ramifications in countries where large segments of the population are still not economically advanced and suffer from structural deficiencies, such as India. In only the last half-decade, the number of unique bank accounts opened, predominantly digitally, has been greater than the number of bank accounts opened in the entirety of the history of the country since 1950.

The opening of bank accounts and the digital recording of transactions enables a much greater range of potential lenders (who could deploy computer programs in place of human lending reviewers) to review financial records at a much faster pace and consider lending, faster and with greater precision. For a country where sluggishness is a byword for reality, the potential impact of the changes brought about by the deployment of artificial intelligence in capital allocation is seismic and revolutionary.

Go-iEvent

Mr Mohd Nasurudin Hasbullah

Centre of Studies Architecture

Universiti Teknologi MARA (UiTM)

LEGEND: Research Title | Researcher | Faculty | University

TRACK 4: R&D AND COMMERCIALISATION

RoboAdvisor to predict and recommend emerging, hot topics that would attract a range of audience size and profile. Measures potential ROI / Cost benefit analysis for organisers and recommend cost drivers, breakeven analysis with automated, actionable insights.

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For partnering opportunities, please email: ceai@myfinb.com

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Fusion of Contrast-Adaptive Color Correction in Convolutional Neural Network for Underwater Image Enhancement in Aquaculture Fish Disease Management

Associate Professor Dr Mohamad Ghozali Hassan Al-Hajr

School of Technology Management and Logistics

Universiti Utara Malaysia (UUM)

LEGEND: Research Title | Researcher | Faculty | University

TRACK 4: R&D AND COMMERCIALISATION

RoboAdvisor to interpret and analyse the metadata from the Fusion of Contrast-Adaptive Color Correction for Underwater Image Enhancement in Aquaculture Fish Disease Management.

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10. Supply Chain & AI
11. SDG Measurement Using AI
12. AI's Role in Governance, Risk & Compliance (GRC)
13. Diversity & Board Performance
14. The Future of Education
15. The Future of Cooperatives

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THREE WAYS YOU CAN BUILD & OWN AI WITHOUT CODING

➔ You have an idea

Yes - this idea must originate from a pressing need, pain point or an opportunity that is associated with your current operations and/or industry dynamics.

There must be a ready demand for that idea to be transformed into a system - otherwise it has to be incubated or "cook" to be ready for the market.

➔ From idea to system prototype and business plan

We design algorithms and build the business case around the system with our vast expertise in any discipline.

8 core deliverables will be rendered:
1. Mock-up Reports 2. Technological Blueprint 3. Roadmap 4. Prototype 5. Case Studies 6. 1-min Demo Video 7. Press Release 8. Pitch Deck

➔ We both ….

jointly own the IP in accordance to a pre-agreed ratio where MyFinB funds the full capex while you cover the costs of the prototype

We commercialise and launch them to the market based on the pre-agreed specifications and after the full system development is completed by MyFinB. Roles and responsibilities would have been detailed out, and a long-term partnership is forged.

BUILD INNOVATION WITH US

MyFinB is an award-winning, high growth AI start-up with core operations in KL/SG and serving more than 30 markets globally.

We specialise in Artificial Intelligence and Natural Language Generation & Understanding (NLGU). Our AI-powered solutions translates structured data (financial statements, bank statements, incorporation info) and unstructured data (publications, social media, journals and video images) into decisioning reports.

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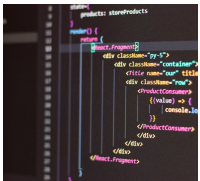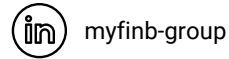
We manage a "digital factory" model where we help organisations build in-house capabilities via the Digital AI Labs (DIAL) programme. DIAL is a scheme of arrangement that helps organisations build and own A.I. expert systems – to solve a specific issue with a commercial goal in mind.

MyFinB's DIAL Programme offers a unique AI-as-a-Service (AIaaS) platform to overcome the barriers of adopting AI Systems. DIAL targets people without the knowledge of coding and programming to build their own expert systems for their organisations.

"NOW EVERYONE CAN BUILD AND OWN AI WITHOUT CODING."

TO FIND OUT MORE, PLEASE EMAIL: CEAI@MYFINB.COM

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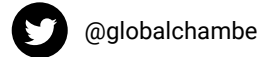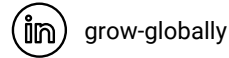
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