#### AUGUST 2021 | ISSUE #32

GET INSIGHTS ON AI UNDER 10 MINUTES







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#### HEADLINE NEWS IN A FLASH

- Artificial Intelligence Helps Unlock Extreme Weather Mysteries
- MediaTek announces latest Dimensity 5G chips
- Humanoid bot on way
- 'Baby tech' spreads in Japan but faces challenges from parenting norms
- University of Auckland students win trans-Tasman IT Challenge
- Autonomous 'robocar'

#### WHAT'S HOT

## AI CHAMPIONS DRIVING NEW INDUSTRY SOLUTIONS FOR CLIMATE CHANGE

#### SECTOR FOCUS

## **NO-CODE AI** DEMOCRATISING MACHINE LEARNING

## AI CHAMPIONS DRIVING NEW INDUSTRY SOLUTIONS FOR CLIMATE CHANGE

The climate change crisis is real, finding quick and affordable solutions is an urgency, and AI can play a major role. Around the world, innovators are working to fight climate change with unique AI use cases that can help to prevent wildfires, mitigate environmental risks posed in vulnerable hotspots, drone surveillance monitoring, and predictive technologies in a concerted effort to make our Earth more livable and resilient for decades to come.

#### AI FOR NET ZERO WASTE

Waste reduction is one of the key areas where the true power of artificial intelligence can be leveraged. For example, Greyparrot is an AI Startup that uses "AI-powered computer vision software to increase transparency and automation in recycling." On the consumer and retail side of things, Wasteless is "helping supermarkets and online grocery stores recapture the full value of their perishable products and reduce food waste through AIpowered dynamic pricing." Another startup that is leveraging AI to combat waste is WINT. "WINT detects and stops leaks at the source using Artificial Intelligence. It alerts you when water is leaking and automatically shuts it off. All of these startups use advanced predictive analytics and dynamic monitoring systems to reduce waste, and are real Use Cases in the fight against Climate Change.

### AI FOR ENVIRONMENTAL INTELLIGENCE: BETTER CLIMATE PREDICTIONS

Al has helped researchers gain 89% to 99% percent accuracy in identifying tropical cyclones, weather fronts and atmospheric rivers, the latter of which can cause heavy precipitation and are often hard for humans to identify on their own (Columbia University Climate Institute). Environmental Intelligence has become especially significant for predicting climate trends and patterns that are extreme in nature. Artificial intelligence and deep learning have the ability to quickly analyze dynamic systems and simulate them (like atmospheric pressure and overlying chemistry), and produce accurate models that can then be applied by scientists and researchers for more robust decision making. For example, Google is "Using Machine Learning to "Nowcast" Precipitation in High Resolution," which enables almost instant prediction of weather patterns.



#### DRONES AND ENVIRONMENTAL MONITORING

Another area where AI is making an impact for climate change is with drone surveillance of forests. Speaking to the press association (PA), technology entrepreneur Ewan Kirk said that drones are one of the easiest ways to collect important data from remote regions, and gather intelligence on ecological health "Using UAVs to effectively monitor vegetation and land over large areas will help scientists and researchers to create large data sets helping them understand how climate change is affecting some of the world's most critical resources." For example. Dendra Systems "uses advanced data science. artificial intelligence, and drone automation to rehabilitate land and restore biodiverse ecosystems at scale." It is evident that drones are a critical aspect of monitoring environmental health, and are part of the key to resolving climate change. According to Charlotte Degot, Partner at BCG GAMMA "Many corporations commit to limiting their environmental impact, but most face two primary challenges: 1) Transparency on where exactly CO2 emissions come from, and 2) finding scalable solutions to reduce emissions with positive financial impact. That's where BCG CO2.AI can help."

## FOOD SUPPLY CHAIN OPTIMIZATION AND IMPROVING AGRICULTURAL OUTPUT

Al is becoming prevalent, from better predicting demand in restaurants to reducing food waste to helping developing world farmers diagnose and treat agricultural crops. For example, Indian farmers have been able to achieve up to 30% higher yields with machine learning advice on when is the best time to sow crops. In addition, Beyond Meat (supported by Bill Gates) has created the world's first meat burger that is entirely plant based. Another great example of optimization comes from BCG, which was able to leverage climate change data combined with powerful Al algorithms to predict crop yields and produce evaluated risk reports for a French Wine & Spirits Manufacturer.

#### THE WAY FORWARD

Moving forward, we need to focus on transforming how datadriven solutions are being developed and commercialized at scale. Artificial Intelligence has proven itself to be an important piece of fighting climate change and restoring the environmental integrity of our planet. Finally, we need to educate enterprises and the public sector on the potential for AI. As per Hamid Maher, Partner, Head of Social Impact at BCG GAMMA, & Managing Director at Boston Consulting Group, "It is critical that companies start incorporating the impacts of climate change in their future planning processes. By identifying these changes early, companies can build in practices that will increase adaptation and resilience to such changes, allowing for future success."



HEALDLINE NEWS IN A FLASH

#### ARTIFICIAL INTELLIGENCE HELPS UNLOCK EXTREME WEATHER MYSTERIES

Stanford researchers have developed a machine learning tool to identify conditions for extreme precipitation events in the Midwest, which account for over half of all major U.S. flood disasters. Published in Geophysical Research Letters, their approach is one of the first examples using Al to analyze causes of long-term changes in extreme events and could help make projections of such events more. "The algorithm we use correctly identifies over 90 percent of the extreme precipitation days, which is higher than the performance of traditional statistical methods that we tested," - lead author Frances Davenport said.

Source: News Wire Publications

#### MEDIATEK ANNOUNCES LATEST DIMENSITY 5G CHIPS

Global fabless semiconductor company MediaTek has announced the new Dimensity 920 and Dimensity 810 chipsets - the latest additions to its Dimensity 5G family - that are designed to give smartphone makers the ability to provide boosted performance, brilliant imaging and smarter displays to their customers. Built using the 6nm high-performance manufacturing node, the Dimensity 920 supports intelligent displays and hardware-based 4K HDR video capture, while also offering a 9% boost in gaming performance, compared to its predecessor, the Dimensity 900. The Dimensity 810, built using the 6nm high-performance manufacturing node, provides Arm Cortex-A76 CPU speeds up to 2.4GHz, premium camera features including artistic Al-color in collaboration with Arcsoft, and advanced noise reduction techniques for superb low-light photography.

Source: Business World Publishing Corporation.

#### **HUMANOID BOT ON WAY**

Tesla and SpaceX chief executive Elon Musk has announced that his company is working on a humanoid robot, and says the prototype will arrive sometime next year. The 15cm-high bot would be used to handle automated machines at Tesla factories, as well as some of the hardware and software that powers the Autopilot driver assistance software, Musk announced during an 'Al Day' event on Thursday. The bot is "intended to be friendly and navigate through a world built for humans," he added. The Tesla robot will weigh 57.6kg and have a walking gait of 8km/h. The face will house a screen to display important information. The code name for the bot inside the company is "Optimus". The robots will be designed to handle "tasks that are unsafe, repetitive or boring".

Source: Independent Online

#### **'BABY TECH' SPREADS IN JAPAN BUT FACES** CHALLENGES FROM PARENTING NORMS

"Baby tech" that supports child rearing with the full use of the latest technology including artificial intelligence (AI) is gaining attention in Japan. In February at the remotely-held International Consumer Electronics Show (CES), the world's largest annual tech show, a Japanese company surprised the world with its rounded, 15-centimeter tall device designed to pick up a baby's cry with a microphone and analyze it to inform nearby adults why they are crying. There is a high potential need (for baby tech) in Japan, and the market for general households may expand to be worth 100 to 200 billion yen (about \$912 million to \$1.8 billion) in a few years. However, there is a psychological barrier against baby tech's uptake in Japan.

Source: The Mainichi Newspaper

#### UNIVERSITY OF AUCKLAND STUDENTS WIN TRANS-TASMAN IT CHALLENGE

Team members Nicholas Kondal, Laith Saeed, Sonia Wang and Emily Zou - all studying conjoint engineering degrees, and from Auckland developed Rev-you, a functional prototype app for the MYOB marketplace designed to help SMEs automatically collect and analyse customer feedback using data analytics and artificial intelligence. The technology then converts the responses received into highly detailed information about the different customer groups. Member of the winning team, Nicholas Kondal, explains they developed Rev-you as a way for SMEs to gain better insight into their customers, looking beyond what's visible in the basic sales data from their invoices.

Source: Fuseworks Limited

#### **AUTONOMOUS 'ROBOCAR'**

BAIDU, the Chinese technology giant behind the country's search engine, has just announced a level 5 SAE autonomous car thanks to a new chip. Behind this potential success is an ambitious open source platform called Apollo. The car would be able to manage itself, in all circumstances, without human intervention. For the moment, it's hard to believe as the remaining obstacles before a completely autonomous car could be achieved seem to be numerous. The production of a new second-generation Kunlun chip, specialised in calculations and artificial intelligence (AI), seems to be part of the solution. Its calculation capacity is two to three times higher than the old chips. Baidu took more than eight years to develop its "robocar", whose name has not yet been revealed. With its zero-gravity seats, voice and facial recognition, and advanced AI capabilities, the prototype vehicle is "more robot than car", according to Baidu's chief executive officer Robin Li.

Source: New Straits Times Press (Malaysia) Berhad.

# **NO-CODE AI** DEMOCRATISING MACHINE LEARNING

Source: Future Publishing Ltd & The Indian Express Limited

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In the current scenario, when organisations are forced to embrace cutting-edge technologies and automation just in order to compete successfully within their industries, no-code platforms have a clear business advantage. Many organisations are thus turning to no-code AI platforms to fast-track their automation journey and the trend is only going to gather momentum in the days and years to come.

A majority of modern business organisations, irrespective of their size, often need to design, develop and deploy complex technology projects. As they plan and execute such projects, they have to consider the strategic options of whether they should hire more people with required technological skills, or outsource the development, or perhaps buy an off-the-shelf tech product that can be quickly customised and deployed.

Few technology projects are as complex and challenging as the ones involving Machine Learning and Artificial Intelligence. Most organisations looking to embrace AI and ML solutions believe they cannot do so without having a strong tech team and data scientists on board. This was largely true until now. Today, we have No-code AI solutions that increasingly resemble standard off-the-shelf tech products and can be easily picked and deployed. They are also steadily gaining popularity as a faster and efficient way to implement AI-enabled applications without the accompanying hassles.



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#### **TRADITIONAL AI AND AUTOMATION**

The terms Artificial Intelligence and Automation are often used interchangeably. They allow businesses and teams to operate more efficiently and effectively. However, both are extremely complex on two different levels. Automation is the application of technology, programs, robotics, or processes to produce goods or services and achieve outcomes with minimal human assistance. On the other hand, AI is a science and engineering process that makes it possible for machines to learn from experience, adjust to new inputs and realtime data, and perform tasks at a human level or higher.

Traditional implementation of AI requires heavy technical skills and programming. Java, Python, Lisp, Prolog, and C++ are major AI programming languages used for AI to satisfy different needs and to develop and design different applications for business processes. For a typical business end user, implementing AI is impossible with the technical expertise and knowledge required to build out AI processes. The no-code movement is making it possible to see broader movement towards AI implementation now.

#### WHAT IS NO-CODE AI?

The rise of the no-code movement has enabled businesses across all industries to reevaluate their technical processes and needs. Organizations can easily implement agile development strategies using no-code tools, while achieving similar and sometimes even better results and increasing productivity. No code tools are most commonly known for web and app development but can also develop and build AI and ML models. No-code allows users to transform business processes by quickly developing new solutions to meet customer needs and has attracted many financial services firms to adopt no-code AI into their workflows.

In fact, as AI and ML-based process automation has gained popularity among mainstream businesses, the demand for enabling platforms that are plug and play and which require no-coding expertise has skyrocketed. This trend is particularly true in the Banking and Financial Services industry, which has been forced to expedite its digitalisation strategies in the wake of the pandemic. Many banks and other financial services companies have found themselves struggling when deploying deep-tech solutions, often because there is a veritable scarcity of developers with the required expertise. Those who are available typically come at huge costs.

Like banks, other large businesses in non-tech industries who are considering deploying custom ML applications for their processes also do not always have inhouse ML experts, and are equally wary of sharing their data with third parties owing to data privacy concerns. For such use cases, no-code AI platforms are ideal as they can be deployed in-premise in order to quickly and easily automate processes. In other words, no-code is democratizing AI so that business analysts and leaders, underwriters, and product and risk managers, can create their own models, quickly and efficiently, bypassing the IT bottleneck. Data scientists are then free to work on highly sophisticated projects, and business users can be far more efficient. No-code AI takes the complex technical and coding skills out of the traditional methods, enabling anyone to build out AI models.

#### THREE THINGS TO CONSIDER WITH NO-CODE AI

Software development has changed rapidly over the past few years and no code development platforms have seen a steady adoption, owing to their simple nature. These platforms are available as 'guided' platforms with drag-and-drop functionality, offering a simple yet completely automated ML application development. As such, these platforms allow even business or domain users with no tech expertise to quickly implement ML-based automation and improve their operations. The developers are in turn freed up to focus on solving more critical business issues. No-code, AI work process offers other business advantages also, including operational efficiency, increased productivity and cost-savings, which help businesses allocate resources for developing additional applications that are customised to their requirements.

Not all companies are fit for this new technology though. Organizations interested in no-code solutions must determine whether their company is a good fit. Those that already have many manual processes, a structured team of data scientists, and are looking to scale rapidly may not want to spend time in restructuring to implement no-code AI. Additionally, companies with large teams of advanced technical experts who are used to actual coding and are expecting to reconfigure, and tweak code may feel that migrating to a no-code platform isn't a good fit for their organization.

As AI is increasingly making its impact on our world and businesses it's important to make it as business and user friendly as other disruptive and innovative technologies today. Like email, Excel spreadsheets, and high-speed internet, AI is poised to change the way the world does business. With no-code AI, business end users can create new solutions without having to code, improving business efficiencies, productivity, ROI, and customer retention./



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# FROM IDEAS INTO SYSTEMS

DESIGN & BUILD AI PROTOTYPES AS PART OF DIGITAL TRANSFORMATION FOR YOUR ORGANISATION.

### GET AI-CERTIFIED

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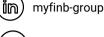


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