



Talal Abu-Ghazaleh Artificial Intelligence Consulting

# TAG AI CONSULT Newsletter

**We transform data into insights**

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## MESSAGE FROM THE CHAIRMAN

Artificial Intelligence (AI) has gained grounds in the advancement of technologies and development of smart autonomous applications and devices in industries.

With rapid market shifts towards AI, businesses still cannot keep in pace with accelerating trends and growing professional divide.

We have a mission to achieve, bringing advancement of AI technologies to businesses and building AI capacities to facilitate and enhance business prosperities to capture profit and keep in pace with AI evolution.

Only with consulting support and guidance, AI technologies, applications, and standards for excellence can be re-enforced in the promotion of dynamic and flexible smart and autonomous business environments.



**Abu-Ghazaleh launches AI services in cooperation with Fusion Informatics**



**Abu-Ghazaleh calls on Organizations to Assist Militaries Adopt Smart Technologies**



**Engineers translate brain signals directly into speech**



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## Abu-Ghazaleh launches AI services in cooperation with Fusion Informatics



**AMMAN-** HE Dr. Talal Abu-Ghazaleh signed a cooperation agreement with Fusion Informatics in support of his vision to launch AI services at TAG Global. He said “Artificial Intelligence and Machine Learning solutions are promising technologies for business automation and effective service distribution”. “These technologies will have a direct impact and significant continuous process for business customers”, he added.

In partnership with Fusion Informatics, an AI software Development Company based in India,

Talal Abu-Ghazaleh Artificial Intelligence will focus on delivering advanced AI solutions to enhance the capabilities of businesses in an effort to achieve profit and maintain a continuous updating of AI evolution.

Only with consulting support and guidance, AI technologies, applications, and standards of excellence can be reinforced in the promotion of dynamic and flexible smart and autonomous business environments.

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In the initial phase, Talal Abu-Ghazaleh Global has initiated AI projects to automate business processes using natural languages processing, data analytics, deep learning, machine learning, AI chatbot, and blockchain. These include auditing and accounting, archiving, learning, HR, trademark and patenting, and invoicing.

Mr. Ashesh, CEO of Fusion Informatics, said: We are experienced in developing AI and ML (Machine Learning) solutions to advance automation in the business that drives outcomes. We have developed successful machine learning models for our potential clients. Our relationship with Talal Abu-Ghazaleh Artificial Intelligence allows us to leverage the combined AI solutions to solve complicated business problems for our customers in Jordan and the region across all industry verticals.

#### **About Abu-Ghazaleh Global**

Founded in 1972, TAG.Global is one of the world's the largest professional and educational services provision companies for various businesses. The company operates to high-quality standards in more

than 100 locations worldwide including in Arab countries, North America, Africa, Europe, and Asia. TAG. Global operates through more than 100 offices worldwide with non-exclusive strategic alliance agreements with various networks and individual firms, thus enabling it to choose a firm best suited to its clients' needs in virtually every country in the world. For More Information Visit- [www.tagorg.com](http://www.tagorg.com)

#### **About Fusion Informatics**

Fusion Informatics is the world's premier leading software Development Company for Artificial Intelligence, IoT, Blockchain and Enterprise Mobility solutions. They are the B2B oriented firm aimed at providing innovative AI solutions for enterprises in their I.T needs. Since 2000, they have expert innovators in advanced technology providing supply chain process for business. Fusion Informatics is passionate about helping enterprises to grow their business by implementing Artificial Intelligence. Our technology empowers users to quickly enhance completion and creates new opportunities. For more information, Visit- <https://www.fusioninformatics.com>

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# Abu-Ghazaleh calls on Organizations to Assist Militaries Adopt Smart Technologies



## MARITIME SECURITY & OFFSHORE PATROL WEEK

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**DUBAI** - HE Dr. Talal Abu-Ghazaleh highlighted the achievements of the United Arab Emirates in the field of maritime security owing all the positive development to the great leadership of HH Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE, and Ruler of the Emirate of Dubai.

In his keynote speech at the Maritime Security & Offshore Patrol Conference, Dr. Abu-Ghazaleh focused on the importance of innovative maritime security, in a country which has redefined the meaning of innovation and is now leading it globally.

“Dubai is a worldwide leader in technology and is actively building the digital economy of the future. It is a living example of a knowledge economy and a role model of inspiration and talent. We all can learn many lessons from this great country and its success,” Dr. Abu-Ghazaleh stated in his talking points delivered in absentia.

“The defense of our international waters is indeed of vital importance to national security and poses a significant challenge to defense forces globally due to the enormity of the mass that it covers. Without innovation in areas such as maritime C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance)

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and international cooperation between Naval defense forces, protecting this vital life-line would be highly problematic,” Dr. Abu-Ghazaleh who founded and chaired the Joint Board for Military Development and Innovation in conjunction with the Jordan Armed Forces, added.

Placing hope on the future of Artificial Intelligence (AI), Dr. Abu-Ghazaleh stressed on his vision saying “I foresee that a major disruptive technology within all these aspects of maritime security will be Artificial Intelligence. This will undoubtedly affect many aspects of maritime security and allow a greater degree of security to be realized within this industry.”

“AI is here to stay and will be used for military purposes whether we like it or not. I say that our navies need to excel in such development. The very possession of such formidable technology acts as a deterrent and in many cases sabre rattling may be enough to make adversaries think twice,” he stated.

Dr. Abu-Ghazaleh, an avid champion of advancement in technology has written a book, published and distributed worldwide, called the ‘Brave Knowledge World’ which shows how our lives will change as a result of the many proliferating disruptive technologies including AI.

“The book is a technological discourse which takes the reader through a journey of how the 4th industrial revolution based on technology brings with it many

positives as well as negatives including how human life and industry will be revolutionized,” he said.

According to Dr. Abu-Ghazaleh who established Talal Abu-Ghazaleh University College for Innovation (TAGUCI) designed to produce ICT innovators where students and in order to graduate they must produce a unique innovation “We need to build AI innovators in this region and contribute to the protection of defenses globally.”

Placing his 110+ offices around the world and widely recognized resources to help students’ innovate, Dr. Abu-Ghazaleh said: “University graduates are a big part of this region’s future and we cannot afford to have mere paper graduates. TAGUCI will provide state of the art innovation labs, access to world experts and leading technology education to help close the gap that our region is facing.”

He highlighted the work of Talal Abu-Ghazaleh Global with the Jordan Armed Forces under the umbrella of the Joint Board for Military Development and Innovation to initiate a number of knowledge management and information technology projects.

The 3- day event discussed how the landscape of national and regional security has rapidly changed and the urgent need for naval forces across to have efficient ICT based systems that can provide timely and actionable intelligence in order to effectively respond to threats.

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## Engineers translate brain signals directly into speech

In a scientific first, Columbia neuroengineers have created a system that translates thought into intelligible, recognizable speech. By monitoring someone's brain activity, the technology can reconstruct the words a person hears with unprecedented clarity. This breakthrough, which harnesses the power of speech synthesizers and artificial intelligence, could lead to new ways for computers to communicate directly with the brain.

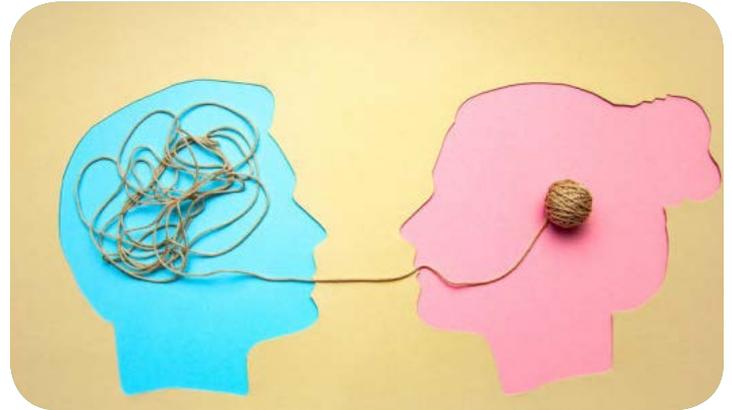
It also lays the groundwork for helping people who cannot speak, such as those living with amyotrophic lateral sclerosis (ALS) or recovering from stroke, regain their ability to communicate with the outside world.

These findings were published today in Scientific Reports.

“Our voices help connect us to our friends, family and the world around us, which is why losing the power of one's voice due to injury or disease is so devastating,” said Nima Mesgarani, PhD, the paper's senior author and a principal investigator at Columbia University's Mortimer B. Zuckerman Mind Brain Behavior Institute. “With today's study, we have a potential way to restore that power. We've shown that, with the right technology, these people's thoughts could be decoded and understood by any listener.”

Decades of research has shown that when people speak -- or even imagine speaking -- telltale patterns of activity appear in their brain. Distinct (but recognizable) pattern of signals also emerge when we listen to someone speak, or imagine listening. Experts, trying to record and decode these patterns, see a future in which thoughts need not remain hidden inside the brain -- but instead could be translated into verbal speech at will.

But accomplishing this feat has proven challenging.



Early efforts to decode brain signals by Dr. Mesgarani and others focused on simple computer models that analyzed spectrograms, which are visual representations of sound frequencies.

But because this approach has failed to produce anything resembling intelligible speech, Dr. Mesgarani's team turned instead to a vocoder, a computer algorithm that can synthesize speech after being trained on recordings of people talking.

“This is the same technology used by Amazon Echo and Apple Siri to give verbal responses to our questions,” said Dr. Mesgarani, who is also an associate professor of electrical engineering at Columbia's Fu Foundation School of Engineering and Applied Science.

To teach the vocoder to interpret brain activity, Dr. Mesgarani teamed up with Ashesh Dinesh Mehta, MD, PhD, a neurosurgeon at Northwell Health Physician Partners Neuroscience Institute and co-author of today's paper. Dr. Mehta treats epilepsy patients, some of whom must undergo regular surgeries.

“Working with Dr. Mehta, we asked epilepsy patients already undergoing brain surgery to listen to sentences spoken by different people, while

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we measured patterns of brain activity,” said Dr. Mesgarani. “These neural patterns trained the vocoder.”

Next, the researchers asked those same patients to listen to speakers reciting digits between 0 to 9, while recording brain signals that could then be run through the vocoder. The sound produced by the vocoder in response to those signals was analyzed and cleaned up by neural networks, a type of artificial intelligence that mimics the structure of neurons in the biological brain.

The end result was a robotic-sounding voice reciting a sequence of numbers. To test the accuracy of the recording, Dr. Mesgarani and his team tasked individuals to listen to the recording and report what they heard.

“We found that people could understand and repeat the sounds about 75% of the time, which is well above and beyond any previous attempts,” said Dr. Mesgarani. The improvement in intelligibility

was especially evident when comparing the new recordings to the earlier, spectrogram-based attempts. “The sensitive vocoder and powerful neural networks represented the sounds the patients had originally listened to with surprising accuracy.”

Dr. Mesgarani and his team plan to test more complicated words and sentences next, and they want to run the same tests on brain signals emitted when a person speaks or imagines speaking. Ultimately, they hope their system could be part of an implant, similar to those worn by some epilepsy patients, that translates the wearer’s thoughts directly into words.

“In this scenario, if the wearer thinks ‘I need a glass of water,’ our system could take the brain signals generated by that thought, and turn them into synthesized, verbal speech,” said Dr. Mesgarani. “This would be a game changer. It would give anyone who has lost their ability to speak, whether through injury or disease, the renewed chance to connect to the world around them.”

Source: <https://www.sciencedaily.com/releases/2019/01/190129081919.htm>

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