NEWSLETTER
ITECH COMMITTEE

Meet AntBot, The First Walking Robot That Navigates Without GPS.

Scientists claim to have developed the first walking robot that can explore its environment and find its way home without GPS or mapping, opening new avenues for the navigation of autonomous vehicles.

Ants use polarized light and ultraviolet radiation to locate themselves in space. Cataglyphis desertants in particular can cover several hundreds of meters in direct sunlight in the desert to find food and then return in a straight line to the nest, without getting lost.

Researchers from the French National Center for Scientific Research (CNRS) took inspiration from desert ants, which are extraordinary solitary navigators, to design the AntBot. AntBot copies the desert ants' exceptional navigation capacities, allowing it to explore without using Global Positioning System (GPS), researchers said.

It is equipped with an optical compass used to determine its heading by means of polarized light, and by an optical movement sensor directed to the Sun to measure the distance covered. Armed with this information, AntBot has been shown to be able, like the desert ants, to explore its environment and to return on its own to its base, with the precision of up to one centimetre after having covered a total distance of 14 meters.

Weighing only 2.3 kg, this robot has six feet for increased mobility, allowing it to move in complex environments, precisely where deploying wheeled robots and drones can be complicated. The optical compass developed by the scientists is sensitive to the sky's polarized ultraviolet radiation. Using this "celestial compass" AntBot measures its heading with precision by clear or cloudy weather.

AntBot brings new understanding on how desert ants navigate, by testing several models that biologists have imagined to mimic this animal.

The folding Phones-The Next Big Thing.

There has been great development in the field of the smart-phones from removal of Bezels and Integrating in-display fingerprint scanners and now Futuristic-looking bendable tablets and smart-phones have captured our imagination for years. Whether it's the folding tablets found in *Westworld* or the many book-like slates with foldable pages in Microsoft's future vision videos, a phone that folds out into a much larger device is dreamlike. Samsung is now trying to make these wild concepts a reality.

Samsung is actually using two separate displays to create its foldable phone — one on the inside, and a smaller display on the outside — unlike which uses a single folding display on the outside of the device. Samsung's internal display is 7.3 inches with a 1536 x 2152 resolution (4.2:3). It folds in half to reveal a second display on the front of the device.

This second "cover display," as Samsung calls it, functions as a 4.58-inch phone interface with a resolution of 840 x 1960 (21:9). It's also flanked by much larger bezels at the top and bottom compared to the internal display. This combination of displays has given us an early glimpse at what to expect from foldable phones in 2019 and beyond. As glass is not pliable, Samsung has had to develop new materials to protect its new display. The Infinity Flex Display uses a polymer that Samsung says is both "flexible and tough," meaning it can keep its strength even when folded and unfolded "hundreds of thousands of times." Samsung has combined this with a new adhesive that laminates the various display layers together to allow them to flex.

None of this is glass, though, so it could feel a little different than what we're used to with modern phones, tablets, and touchpads. Samsung's device, which is pocket friendly, didn't look particularly thin compared to modern Smart-Phones. The bezels when folded for use as a phone are also giant compared to modern edge-to-edge flagships, and the folding display Samsung has chosen makes the device very tall when closed.

The core benefit of a foldable smart-phone is that the user can have the benefit of a larger display but can still fit it into their pocket, coat, or purse.

Samsung is creating its own multi active Window software that will allow its foldable phone to display three apps at the same time. Multitasking is only one aspect of software, and Samsung together with Google will need to optimize the entire Android UI and experience for these types of devices. Foldable phones are the obvious initial market for this screen technology, but manufacturers will get far more ambitious as the display technology matures. Samsung is also promising rollable and stretchable OLED displays in the future. It sounds unbelievable right now, but we're only at the very beginning of our flexible future.

SeeingAI : A boon for the blind.

Researchers at Microsoft have developed an application that would be beneficial for the visually impaired at a great extent. San Francisco, March 13: Microsoft has updated its computer vision app for the visually challenged people with an option to explore photos by touching them.
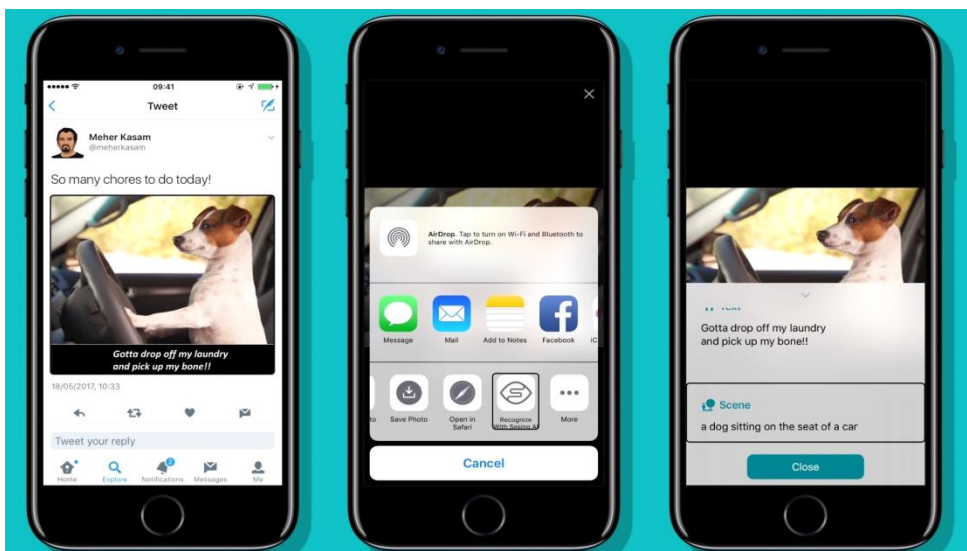
A visual view of the app

'SeeingAI' as the application is known by the name,the highly intuitive app is currently available on the IOS platform. It is an app that lets blind and limited-vision folks convert visual data into audio feedback, with additional features.

It's powered by machine learning, of course, specifically object and scene recognition. All you need to do is take a photo or open one up in the viewer and tap anywhere on it. The new feature in the "Seeing AI" IOS app enables users to tap their finger to an image on a touch-screen to hear a description of objects within an image and the spatial relationship between them.

"This new feature enables users to tap their finger to an image on a touch-screen to hear a description of objects within an image and the spatial relationship between them," wrote Seeing AI lead Saqib Shaikh. "The app can even describe the physical appearance of people and predict their mood."

Because there's facial recognition built in as well, one could very well take a picture of his/her friends and hear who's doing what and where, and whether there's a dog in the picture (vital) and so on. This was possible on an image-wide scale already. But the app now lets users tap around to find where objects are — obviously important to understanding the picture or recognizing it from before. Other details that may not have made it into the

overall description may also appear on closer inspection, such as flowers in the foreground or a movie poster in the background.

In addition to this, the app now natively supports the iPad, which is certainly going to be nice for the many people who use Apple's tablets as their primary interface for media and interactions. Lastly, there are a few improvements to the interface so users can order things in the app to their preference.

The Future of mobility: Driverless flying cars.

While we are still a while away from seeing actual flying cars in cities around the world, one such concept has made its way to Dubai at the 38th edition of the GITEX(GITEX ("Gulf Information Technology Exhibition") is an annual consumer computer and electronics trade show, exhibition, and conference that takes place in Dubai, United Arab Emirates at the Dubai World Trade Centre) Technology Week.

On display at the Etisalat stand at the exhibition is Pop. Up Next Future Mobility Concept, an unmanned flying electric vehicle that is jointly developed by Audi, Airbus, and Ital Design. Pop. Up Next philosophy behind the design anticipates the challenges that the next 50 years will bring. It represents a vision of the potential offered by future technologies when it comes to transportation.

The concept aims to tackle issues linked to city planning and traffic in large urban centers that are increasingly becoming one of the priority aspects for safeguarding our planet. The Pop. Up Next system aims to free commuters from the need to drive through a flexible, shared and adaptable new way of moving within cities.

The vehicle combines the flexibility of a small two-seater ground vehicle with the freedom and speed of a vertical take-off and landing (VTOL) air vehicle, thus bridging the automotive and aerospace domains.

The vehicle itself is a self-driving, electric vehicle with a top speed exceeding 130kmph, Rinspeed claims. It can accelerate to 60mph in 9.7 seconds. The car features a curved 5K widescreen display that comes with voice and gesture control. The interactive display system, made by Harman, lets you do everything from watching movies to alerting you of upcoming obstacles, and even telling you when the light will turn green, through a vehicle-to-infrastructure communication system. The car also comes with a heads-up display to provide guidance when making turns when a driver is behind the wheel.

Facebook hits back at claims the '10-year challenge' meme is simply a way for it to train its facial recognition AI.

If you use social media, you've probably noticed a trend across Facebook, Instagram, and Twitter of people posting their then-and-now profile pictures, mostly from 10 years ago and this year. The report claims that photos uploaded with the #10yearchallenge would make it easy for a facial recognition algorithm to study a set of before and after photos. Facebook denied that it played any role in the meme. 'This is a user-generated meme that went viral on its own,' a Facebook spokesperson told Wired. 'Facebook did not start this trend, and the meme uses photos that already exist on Facebook. 'Facebook gains nothing from this meme (besides reminding us of the questionable fashion trends of 2009). As a reminder, Facebook users can choose to turn facial recognition on or off at any time,' the company added.

In a tweet posted by Facebook , they added: 'The 10 year challenge is a user-generated meme that started on its own, without our involvement. It's evidence of the fun people have on Facebook , and that's it.' In every case, the 10-year challenge meme 'organically' resurfaced after a few users posted now-and-then photos of themselves, which later went viral. He cited the #2008vs2018 and #2006vs2016 memes that have been popular recently. Others, including social media experts, argue that there's reason to be suspicious, however 'It presented Facebook with a terrified opportunity to learn, to train their systems to better recognize small changes,' Amy Webb, a professor at NYU Stern School of Business. It comes after Facebook has been rocked by a string of privacy scandals in the past year that have resulted in users' diminished trust in the platform. That's likely what has contributed to some users' speculation around the meme.

It was noted by Wired that in the best case scenario, this data could be used to help find missing children, using an age progression algorithm .It could also be used for ad targeting, or more dystopian purposes, such as being supplied to law enforcement or insurance companies.

Fellow Silicon Valley giant Amazon has also faced backlash about its intent with its facial recognition software, Recognition. Human rights groups have repeatedly called for the company to stop selling the service to law enforcement agencies, alongside similar demands from employees.

Image recognition algorithms are plenty sophisticated enough to pick out a human face. If we uploaded an image of a cat 10 years ago and now—as one of my friends did, adorably—that particular sample would be easy to throw out. Facial recognition's potential is mostly mundane: Age recognition is probably most useful for targeted advertising.

Ad displays that incorporate cameras or sensors and can adapt their messaging for age-group demographics (as well as other visually recognizable characteristics and discernible contexts) will likely be commonplace before very long. That application isn't very exciting, but stands to make advertising more relevant. But as that data flows downstream and becomes enmeshed with our location tracking, response and purchase behavior, and other signals, it could bring about some genuinely creepy interactions.

Regardless of the origin or intent behind the meme, we must all become savior about the data we create and share, the access we grant to it, and the implications for its use. If the context was a game that explicitly stated that it was collecting pairs of then-and-now photos for age progression research, you could choose to participate with an awareness of who was supposed to have access to the photos and for what purpose.

Mobile Wallets: Ensuring a seamless purchase journey.

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With customers looking for integrated and seamless purchase journeys, irrespective of the mode, the lines between different forms of commerce namely in store purchase, e-commerce and mobile commerce are fast closing in.

With data stacking heavily in favor of it, there is a strong case emerging for mobile commerce. As per industry estimates, globally, there are 5 billion active mobile phone accounts as against a mere 1.3 million active credit and debit card accounts.

With financial services fast leveraging the explosive mobile growth, here is a handy guide to everything that you always wanted to know about Mobile Wallet Solutions and their benefits to customers and merchants alike.

What is a Mobile Wallet?

Simply put, a mobile wallet is the digital equivalent of the physical wallet. Like a physical wallet, it stores valuables, only in a digitized form. What it needs though is effective security and permissions to access this material. These may take the form of a password, a QR code, an image or some such authentication code linked to the owner's specific and sensitive personal information.

How a Mobile Wallet works: The Technology

1. A Near Field Communication controller and antennae to enable mobile devices to send out account information to payment readers at points of sale.
2. A secure smart card chip in the phone to store and access account information.
3. An electronic wallet application that allows users to manage accounts.
4. A trusted service manager that connects payment cards into mobile wallets securely.

For Customers

The biggest advantage to customers is its convenience, with no need to carry cash or plastic money. The convenience also stems from the fact that it is a common payment method for both on line and offline payments.

With a tap to pay method it makes purchases extremely easy. It allows for automatic redemption of offers. With the remotely lockable wallet feature, it gives a new meaning to security of transactions

For Merchants

It gives way to an additional communication channel to merchants to interact with consumers. With hassle free payment options, it enhances sales. It enables implementation of personalized loyalty programs. Businesses can create their own branded applications for customers.

With credible solution providers and wide spread access, Mobile Wallet Solutions are set to become an extremely popular and convenient way to transact business. The mobile wallet is clearly well perched to take over your traditional wallet in times to come!

UPCOMING EVENTS:

ACTIVITY	DURATION
Industrial Visit	1 Day
Seminar on Career Guidance	1 Hour
Seminar on 'Software Quality Testing and Testing Tools'	2 Hours
Workshop on 'HTML, CSS, JAVA, Bootstrap'	30 Hours (5 to 7pm)
Seminar on 'Selenium Testing Tool'	2 Hours
Seminar on 'Lyx: Tools to write papers/reports'	2 Hours
Code Knight	24 Hours
Seminar on 'Scope of Networking'	2 Hours
VNPS (VCET's National Level Project Showcase)	1 Day

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