



An International Association of Technology & Computer User Groups

The Rochester Computer Society, Inc. a computer/tech club open to everyone

M NIT R

Vol. 43, No.7 web: www.rcsi.org Rochester, NY July, 2024

Our Club

RCSI is a nonprofit 501(c)(3) group open for membership to anyone interested in computers and new technology. Established in 1981, our aim is to provide an exchange of information between users of digital devices. We are not in any way affiliated with any computer manufacturer or software company, and ***we do not sell your data or email address.***

Program Meetings

No admission fee for non-members. Everyone is welcome! Second Tuesday of every month, ***except July and August***, from 6:30pm-8:30pm.

Help's Half Hour (Q & A) 6:30pm – 7:00pm. *Members and Guests are welcome to attend and bring their computer related questions with them to get answered. Yes, you may bring the problem computer with you.*

7:00 – 7:15, Club Business

7:15 – 8:30+, Main Presentation

Come and join in the fun and enjoy a snack! **You are welcome to bring a guest.**

**** July and August, summer hiatus - No Meetings ****

In This Issue

Automated Vehicles Act to Revolutionise British Roads by 2026	Jack Baker
Use the Cloud; Just Don't Rely on the Cloud	Leo Notenboom
AI – What Next?	Tom Burt
Bits and Pieces in the News	RCSI editor
AI is Cracking a Hard Problem – Giving Computers a Sense of Smell	
Just Put a Robot in the Driver's Seat	
A 'liquid battery' Advance	
Club and Regional News	
RIT Student Video Game Wins Big at GameFest 2024	
RIT's Battery Prototyping Center Merges with NY-BEST	

Automated Vehicles Act to Revolutionise British Roads by 2026

By Jack Baker, June 7, 2024
visit <https://autoregcheck.co.uk/>

Recent legislation has cleared the path for self-driving cars to grace British roads within the next couple of years. The law, dubbed the Automated Vehicles Act, is aimed at regulating vehicles before paving the way for the deployment of fully autonomous vehicles classified as "level four". Unlike their predecessors, these vehicles won't necessitate a "safety driver", enabling motorists to relinquish control and assume the role of mere passengers during transit.

The legislation aligns with the scale of automation developed by SAE International, recognizing six levels of automation ranging from

Become a Member

The club would like to have you as a member, and your subscription will help to keep us going. Go to our website, www.rcsi.org, and download a printed form for use by the Post Office mail, **or** enter your info online and pay with a credit card or PayPal, **or** attend a meeting.



“Your Computer User Group of the Air”, Saturdays from 12:00 pm to 2:00 pm, with Nick Francesco, Dave Enright, and Steve Rae. Broadcasting on JAZZ 90.1 FM (WGMC) from Rochester, NY. Call 966-JAZZ (585-966-5299) or 800-790-0415,

www.jazz901.org

Sound Bytes is the longest running computer call-in show in the known universe.

We have stopped printing the Monitor newsletter.

Digital copies can be emailed or obtained from www.rcsi.org or my Pcloud storage at <https://tinyurl.com/tonydel-rcsi> (this link works in PDF version only). Also includes presentation slides, past newsletters dating back to 1996 and articles too large for this newsletter.

Some Past Presentations:

- Autonomous Cars and Robots
- Open Source and Free Software
- Protecting Your Identity
- Tablets, the Programs and Uses
- Personal Finance Software
- Amazing Browser Tips
- Linux is Like Cars
- Drones and Their Many Uses
- Gifts and Gadgets for the Holidays
- Cut the Cord, Streaming Services
- 3D Printing, ENABLE project
- Features, Mac OS X & Windows
- The New Space Race, 2021
- Tech of South America
- Internet Security and Privacy
- AI and Digital Assistants
- Emerging Technologies
- My Favorite Android Apps

manual to fully autonomous. Previously, British law only permitted vehicles up to level two, which offer limited automation.

Under the provisions of the Automated Vehicles Act, passengers relinquish responsibility for the vehicle's performance while in self-driving mode. Instead, liability shifts to entities such as vehicle manufacturers, insurance firms, or software developers. However, owners will still bear responsibility for ensuring road worthiness and insurance coverage.

Proponents argue that automated vehicles hold the potential to enhance overall road safety by mitigating risks associated with human errors, such as drink-driving, speeding, and driver fatigue—factors contributing to approximately 88% of road collisions.

Trials for self-driving vehicles are already underway across the nation, with cities like London, Oxford, and Milton Keynes serving as testing grounds. Wayve, a British autonomous vehicle company, recently secured over \$1 billion in funding to advance its commercialisation efforts.

Companies in the delivery sector, including Ocado and Asda, are poised to embrace autonomous vehicles for grocery and parcel delivery services. The prospect of autonomous buses also looms on the horizon, particularly for controlled environments like airport shuttles or local transit routes. Agriculture is also poised for transformation, with companies like John Deere exploring AI and robotics integration.

Transport Secretary Mark Harper has lauded the enactment of the bill as a significant milestone for the self-driving industry. He envisions a transformative future for British transportation, emphasising the economic and safety benefits afforded by self-driving technology. While acknowledging individuals' freedom to drive manually, Harper anticipates the widespread adoption of self-driving vehicles on British roads as early as 2026.

However, recent polls indicate a lingering scepticism among Britons regarding autonomous vehicles. Despite public apprehension, government officials stress that road safety remains paramount, asserting that self-driving vehicles must meet or exceed the safety standards upheld by careful and competent human drivers.

The British government aims to preempt challenges encountered by the self-driving industry in the United States, where incidents such as the collision of two driverless Waymo taxis in Arizona prompted technology recalls. Similarly, Cruise, a subsidiary of General Motors, recalled nearly a thousand autonomous cars following an incident in San Francisco.

While experts foresee a delay in widespread private ownership of autonomous vehicles whilst the technology develops and costs are brought down, it seems the dawn of self-driving vehicles is almost upon us.

Reprinted from <https://articlebiz.com>

APCUG, An International
Association of Technology and
Computer User Groups

<https://apcug2.org/>

Saturday Safaris

Exploring Technology in Depth
Saturdays:
12 pm – 2 pm EST

<https://apcug2.org/saturday-safaris/>

Tech for Seniors

[https://
www.techforsenior.com](https://www.techforsenior.com)

hosted by Ron Brown
and Hewie Poplock
Every Monday from 9-10 AM PT,
(12-1 PM ET)
Broadcast with Zoom
The meeting ID is **526-610-331**
(there is no password) and you'll
be placed in a waiting room and
then admitted.

#

APCUG Website Help

Windows & Android Tips:

By Judy Taylour

[https://apcug2.org/
jerestips/](https://apcug2.org/jerestips/)

Apple Tech Tips:

[https://apcug2.org/50-best-
mac-tips-tricks-timesavers/](https://apcug2.org/50-best-mac-tips-tricks-timesavers/)

Penguin Platform (Linux):

[https://apcug2.org/
penguin-platform/](https://apcug2.org/penguin-platform/)

Chromebook Tips And Tricks:

[https://apcug2.org/
chromebook-tips-and-
tricks/](https://apcug2.org/chromebook-tips-and-tricks/)

Use the Cloud; Just Don't Rely on the Cloud

by Leo Notenboom, <https://askleo.com/>
Making Technology Work For Everyone

An important lesson in what feels like an oxymoron.

Online services, aka "the cloud", are often treated as if they are invincible. They're not. They represent a single point of failure that could cost you your data.

I'm a big fan of [cloud](#) services, I really am. I know some people are (often vocally) not, but I respectfully disagree with most of their objections.

However, there's one thing we can all agree on: whether you're avoiding the cloud or hip deep in it, you shouldn't rely on it.

Let me explain what I mean.
(Image: DALL-E 3)

Don't rely on the cloud

Cloud services, while convenient, are a single point of failure. Relying on them alone can lead to data loss if your account is compromised, misconfigured, or the service provider experiences issues. The solution is simple: back up your data separately to avoid losing it permanently.



You're using it, whether you realize it or not

If you have an email account, you're using "the cloud"¹. Email is perhaps the oldest cloud service, even though it predates the term by decades.

Email travels online, is stored online, and access is often a service provided online via your web browser. Even if you download your email using a desktop email program, that email has been stored online for you to be able to get it. It might even be archived or backed up there.

So even if you only use email, everything I'm about to talk about applies to you.

Of course, if you use other cloud services — OneDrive and Dropbox come to mind the quickest — then you already realize this is about you.

It's someone else's computer

I love this definition of *the cloud*. Whatever you're using it for, it's on a computer that belongs to someone else: the service provider.

Use Gmail? You're using Google's computers. Use OneDrive? That's Microsoft's equipment. Posting stuff on Facebook? Those are Zuck's machines you're using.

RCSI Board Members

President:

Mark S. Lawson . . 544-5377
mslawson51@peoplepc.com

Treasurer:

Jerry Seward
jerry@jerryseward.com

Members-At-Large:

Bob Avery 385-4491
Webmaster
webmaster@rcsi.org, 9/24

Jan Rothfuss 347-6020
Membership & Help's Half Hour
jan_rothfuss@hotmail.com, 9/26

Tony Dellelo 734-6149
Programs & Monitor editor
tonydel@techie.com, 9/25

Got Questions?:

Windows: Arpad Kovacs
podcomputer@gmail.com

Linux & some Mac:
Carl Schmidtman
unixgeek@faultline.com

Planning Meeting

Held on 1st Tuesday of each month at 7 pm, * * ONLINE * *. We will be using Zoom. ANY CLUB MEMBER MAY ATTEND.

Monitor Newsletter

The Monitor is published monthly by members of RCSI. Articles by our members may be reprinted by other user groups or nonprofits, without special permission. A courtesy copy may be emailed to the author or Monitor editor. Limited copies (probably in black and white) will be printed and available at our meetings.

Club Mailing Address

Rochester Computer Society, Inc
PO Box 18516
Rochester, NY 14618

And since they own the servers and services, they set the rules whether you like it or not.

It's only in one place

You might already see where this is headed, but it's important to realize that whatever cloud service you're using, your data is in only one place.

Have a file that's in OneDrive and nowhere else? It's in only one place.

Have an important email that lives in your Outlook.com account that you access only online? It's in only one place.

Did you delete that awesome video you uploaded to Facebook so it's only on Facebook? Now it's in only one place.

And, as I hope you've heard me say many times:

If it's in only one place, it's not backed up.

And if it's in only one place, it can be gone in an instant — often with no hope of recovery.

The most common way to lose everything in the cloud

By far the number one way I hear of people losing everything they've stored in the cloud is by account theft or other forms of loss.

For example, if your Google account gets hacked to the point where you can't recover access, then everything associated with that account is *gone*: email, Google Drive files, YouTube videos, and whatever other Google services you were using.

While we like to think we can recover a lost account, I'm here to tell you that my most popular articles and videos are read and watched by people trying desperately to regain access. Ultimately, most of them fail.

Yes, there are [things you can do to protect your account](#), and you should do those things, of course; but it's not enough.

A frustrating way to lose things in the cloud [The Problem With OneDrive Backup](#)

OneDrive's backup function is broken. I'll explain why and what to do about it.

Sometimes, the online service loses data for you.

By that I mean either through some misconfiguration, a confusing user interface, or sudden policy changes, you can lose some of the information you've stored online accidentally.

The best example I have is the [OneDrive backup](#) feature. If you use a free account, enable the [backup](#) feature, and have more than 5GB of files stored in your local Documents folder, you may lose all but 5GB of those files. Backing up will put you over your allotted space, and while OneDrive will warn you, eventually, it starts deleting files to get you down to your limit.

Tidbits of probably useless information

The average person has about 10,000 taste buds. **Catfish** (order Siluriformes), those beady-eyed fish named for their feline-like whiskers, typically have more than 100,000 taste buds, and are located all over the catfish's body, but are most concentrated on the four pairs of whiskers around its mouth. These whiskers, called barbells, act as antennae and allow the fish to not only taste when dinner is nearby, but also hone in on its exact location.

Most healthy people fall **asleep** within 15 to 20 minutes of lying down. Some people will fall asleep faster and some may take longer.

There is only one word in the whole of the English language which ends with 'mt' – the word '**dreamt**'. There are variations, but all words ending in these two letters refer to the past tense of sleep.

The genetic code of plants plays a crucial role in understanding their characteristics and potential applications. One such plant that has garnered significant attention is the **potato**. Potatoes are known for their tetraploid nature, meaning they have four sets of chromosomes. While most potato varieties have 48 chromosomes, some may have 36 or 72 chromosomes.

A **snail** has a lifespan of up to three years – if it's lucky enough not to get squashed in the meantime!

If those were the only copies of those documents — even if they were on your PC — the OneDrive backup feature could cause them to be lost if you aren't prepared.

A rare way to lose things in the cloud

Some people raise the issue, "What if the service provider goes out of business?"

Indeed, if that happens without warning, you'll lose everything that provider has stored for you.

It's *extremely* rare, and honestly, nothing I worry about. The big providers like Google and Microsoft and so on aren't going to go out of business in the blink of an eye. And any service, large or small, almost always provides lots of warning to give you time to get your data and make other arrangements. The [demise of BoxCryptor](#) some time ago is a perfect example: we didn't like it, but they did give us lots of warning.

Cloud services have backups, but...

One response I often hear is that cloud services have backups, so why should we worry?

Good luck trying to get anything from those backups. They're not for you. The backups maintained by cloud services are for their protection, not yours. Those backups exist so the service can recover from its own issues, like hardware or other types of failures.

They are not backups you can count on.

You know the solution

[Back up](#).

If your data is in the cloud — particularly if it's *only* in the cloud — back it up elsewhere.

- Use a desktop email program to back up your email.
- Make sure all of your cloud storage files are included in your regular PC backups.
- If they're not (perhaps due to space issues), take steps to back up those other files somehow.
- Keep your original videos and photos somewhere after uploading them to social media or photo/video-sharing sites.

You get the idea. If your information is only in the cloud, you risk losing it instantly without warning and without hope of recovery.

Back. It. Up.

Do this

Think about all the online services you use and ensure that data is being backed up somehow. What happens if the service just disappears overnight? What would you do? Disaster or inconvenience? We prefer the latter.

Online services are awesome. They enable a level of convenience and functionality you can't get (or get as conveniently) using only equipment at home. And as much as I say you need to back up your online data, it's important to realize that online services themselves can be a valuable part of your overall backup strategy.

Windows & Android Tips
by Judy Taylour

HOW TO FIND HIDDEN STARTUP PROGRAMS SLOWING DOWN YOUR WINDOWS PC – Is your computer taking longer than usual to boot up, or do programs load slowly? This could be caused by hidden applications that launch automatically on system boot and use up significant CPU resources—many are legitimate, but sometimes unnecessary. Read this How-To Geek article about how to find these applications and speed up your computer. [How to Find Hidden Startup Programs Slowing Down Your Windows PC \(howtogeek.com\)](https://www.howtogeek.com/1011462/how-to-find-hidden-startup-programs-slowing-down-your-windows-pc/)

MICROSOFT COPILOT CONTINUES TO IMPROVE, GAINING 3 NEW POPULAR PLUGINS — HERE'S WHAT THEY ARE AND HOW TO USE THEM – While overall ChatGPT adoption seems to be high, especially in an enterprise setting, Copilot doesn't seem to have hit the mass market appeal that ChatGPT has. This difference is likely due to lagging in useful features. Today Microsoft took a step to remedy that, while not as exciting as GPTs in the GPT store for ChatGPT, application plugins for Copilot are a good step in the right direction. For more about the plugins, read this Windows Central article. [Copilot now features plugins for some awesome applications | Windows Central](https://www.windowscentral.com/copilot-now-features-plugins-for-some-awesome-applications/)

Just know that even online services represent a single point of failure.

END OF ARTICLE

***** SOFTWARE and HARDWARE *****

AI - What Next?

By Tom Burt, Vice President
Sun City Summerlin Computer Club

I recently came across an article from TechRepublic reviewing Intel's new Core Ultra and Xeon CPU chips with onboard support for AI. Here's the link to that article:

<https://www.techrepublic.com/article/intel-ai-everywhere-event-2023>.

I shared the article with our Tuesday Kaffee Klatch group. A friend replied, "Really interesting! What's Next?" In this article, we'll explore that question.

My first thought was, "What is AMD doing?" I ran a quick web search and immediately found that AMD has a family of Ryzen AI CPUs offering AMD's XDNA architecture. Here's a link to AMD's web page:

<https://www.amd.com/en/products/processors/consumer/ryzen-ai.html>

My next thought was, "What is ARM doing?" Sure enough, ARM also has CPU chips with onboard support for AI. ARM CPUs are the dominant chips on cell phones, tablets, and recent Apple devices. Here's a link to ARM's web page:

<https://www.arm.com/markets/artificial-intelligence>

So, all the major CPU chip families used in servers, PCs, laptops, and mobile devices incorporate onboard AI support. AI apps like ChatGPT, Bard, and Claude can run on your PC, laptop, or mobile device rather than on a cloud-based server farm. As this technology rolls out over the next few years, it will augment the available worldwide AI processing power by several billion devices.

Futurism

Usually, I avoid trying to predict the future, especially with technology. Reality tends to outstrip even "far-out-there" predictions. However, I'll have to make a few SWAGs in a "What's Next?" article, especially since I'm writing this at the beginning of the new year. However, I'll probably look at this a few years from now and laugh wryly at my naiveté. Let's look at areas where this new onboard CPU support for AI may significantly impact.

Speech Recognition and Generation

Speech recognition has come a long way since my software engineering days at Citibank's Transaction Technology Institute in the mid-1980s. Today, we are at the point where humans can talk to

Scams

By FTC

Scammers are all about spinning lies, but they still operate in the real world. Many scammers pretend to be well-known businesses to gain trust and make their stories seem more believable. And scammers use real-world methods to contact people and to get paid. Reports to the FTC's Consumer Sentinel Network point to some of their favorites.

Let's start with the most-impersonated companies. According to 2023 reports, Best Buy's Geek Squad, Amazon, and PayPal top that list. But reported losses tell a different story: losses were highest when scammers impersonated Microsoft and Publishers Clearing House.

The scammers impersonating these businesses work in very different ways. For example, phony Geek Squad emails tell you that a computer service you never signed up for is about to renew – to the tune of several hundred dollars. Microsoft impersonation scams start with a fake security pop-up warning on your computer with a number to call for “help.” And calls from the fake Publishers Clearing House say you'll have to pay fees to collect your (fake) sweepstakes winnings.

People also told us that they lost money on scams that started on social media, mainly on Facebook and Instagram. These online shopping scams started with ads on social media. However, the largest reported losses to scams starting on social media platforms were to investment scams.

machines using natural, colloquial language and be understood. Even accented speech can be understood. Further, machines can now speak in natural voices and be easily understood by humans.

Machines can also translate textual content from one language to another. Combining translation with voice recognition and synthesis brings us to the realization of the science fiction concept of a universal translator.

A quick search on Google turned up two Android apps and an iOS app that offer this functionality today:

https://play.google.com/store/apps/details?id=com.erudite.translator&hl=en_US&gl=US

https://play.google.com/store/apps/details?id=com.speakandtranslate.voicetranslator.alllanguages&hl=en_US&gl=US

<https://apps.apple.com/us/app/itranslate-voice/id522626820>

For desktop computer users, Google Translate can recognize speech and translate it.

Currently, these apps, while very capable and well-rated, seem to depend on cloud-based servers for the actual translation intelligence. This means their ability to function depends on having an Internet connection. As the new CPU chips mentioned above become commonplace in mobile devices, look for more of this functionality to operate on the mobile device itself with better performance.

If you're a regular Zoom user, you've likely come across its live captioning and transcription features. Zoom can do real-time voice recognition of all the voices on a Zoom session and display the speech as text in a running window at the bottom of the screen. This is a huge aid to hearing-impaired participants. Similar technology is now providing captioning for online videos and other audio streams. For Android and iOS smartphones, there are Live Transcription apps:

<https://play.google.com/store/apps/details?id=com.google.audio.hearing.visualization.accessibility.scribe>

<https://apps.apple.com/us/app/live-transcribe/id1471473738>

Looking ahead, with advanced CPU chips in smart TVs, it becomes feasible for the TV to automatically generate live captions of any incoming audio stream and do on-the-fly translation of the source audio stream language to another language.

Customer Service

Customer service is a fertile area for applying voice recognition and synthesis. Consider a service application that can run on your smartphone, tablet, laptop, or desktop or a service kiosk, displaying a photo-realistic human face and torso, that can converse colloquially with you in any language and has a vast knowledge of the business's products, services and policies, federal, state and local regulations

Virtual Tours

Dry Tortugas National Park – Florida, USA

This remote and underrated park is located 70 miles west of Key West, but thanks to [this virtual tour](#), it is now more accessible than ever.

Visit the Civil War-era Fort Jefferson, dive into a shipwreck from 1907, and swim through the third-largest coral reef in the world.

The White House – Washington, DC, USA

Thanks to [Google Maps Street View](#), we get to see the interiors of the most famous address in the United States; 1600 Pennsylvania Ave, or The White House.

Walk the public spaces, see the artwork and portraits of past presidents, enter the red room, green room, and more.

Embark on a virtual journey through **Googleplex**, the iconic headquarters of Google nestled in Silicon Valley.

Explore the innovative workspaces, cutting-edge facilities, and vibrant culture that define Google's unique workplace environment. Subscribe for an insider's look at one of the world's most renowned tech campuses.

<https://www.youtube.com/watch?v=KfDbB7BNlGA>

Mars, who said we need to stick to earth? Thanks to NASA and Google, we can now take a [virtual tour of a 3D replica of the surface of Mars](#) recorded by the Curiosity rover. How cool is that?

and has the reasoning and operational skills needed to resolve virtually all classes of customer support problems.

Customer Service is a huge cost for all businesses, a large part of which is recruiting and training service representatives. The service activity often has a high turnover rate, meaning the training expense is recurring. Also, policies and products may change frequently, requiring training updates for existing staff. An essential virtue of a "smart" customer service application is that only one master copy of the application needs to be updated, and those updates can be replicated automatically and nearly instantly in all instances of the application. Another virtue is that a "smart" service application is tireless – it will work 24 hours/day, 365 days/year, and doesn't get sick, take vacations, or lose patience with demanding customers.

Every business is somewhat different; consequently, its customer service applications must be customized. Having on-chip AI support in the CPUs of the business's in-house servers will make it easier to keep this customization and give better performance than depending on cloud-based servers. It also gives the business greater control over what data stays "in-house."

AI Companions

AI companions are an evolution of "smart" assistants like Siri, Alexa, and Cortana. Here are two articles that discuss the state of AI companion services:

<https://cybernews.com/tech/ai-companions-explained/>

<https://theweek.com/tech/the-pros-and-cons-of-ai-companions>

These systems today run on cloud servers, but with advanced AI CPUs, they should evolve to run directly on users' devices. This will provide better performance and prevent some concerns about personal information learned by these companions from being in the cloud.

Merging of AI and Robotics

In the past few years, there have been significant advances in robotics. Robots can now "see" via cameras, radar, and lidar and "hear" via microphones. This has helped in factory automation and many other repetitive actions. Self-driving vehicles are a reality, though they still need refinement.

There's also a lot of work on humanoid robots – robots with a head, torso, arms, hands, and feet that can perform tasks traditionally done by humans. These robots have been research projects but are beginning to be deployed in manual labor settings. Here are two links that survey what's current in the field. The YouTube video is quite remarkable.

<https://builtin.com/robotics/humanoid-robots>

<https://www.youtube.com/watch?v=gFp18nW7p34>

The humanoid robotic form has some challenges: The mechanical and software algorithms to keep the robot upright, especially on stairs and uneven terrain, are complex. The many small actuators needed to

**MOVE OVER GEMINI,
OPEN-SOURCE AI HAS
VIDEO TRICKS OF ITS
OWN**

– In work published this month by Hao Liu, Wilson Yan, Matei Zaharia, and Pieter Abbeel of the University of California at Berkeley, and described on [the project's GitHub site](#), the scientists adapt [Meta's open-source Llama 2 large language model](#) to create a multi-modal model that, like Gemini 1.5, can process not just text but also video and imagery, although not audio (unlike Gemini 1.5). Using the mainstream version of Llama 2, a not particularly large 7-billion-parameter neural net, the authors were able to handle input of up to one million "tokens", which is the text, image, or video fed into the model. This number represents a dramatic increase from the 128,000 handled by the Gemini 1.0 version and OpenAI's GPT-4 Turbo. Read more from ZDNet at [Move over Gemini, open-source AI has video tricks of its own](#) | ZDNET.

animate the robot's limbs draw a lot of power, which requires a large battery pack and regular recharging every few hours.

With advanced AI support in the CPU chips powering robots of all types, the robots should have more autonomy; they won't need to access the Internet cloud as much to provide their "intelligence." We can foresee a time not very far in the future when humanoid robots may serve as effective caregivers, nannies, servants, and companions in home and institutional settings. This could significantly improve the quality of life for aging seniors who are often alone and frail.

Final Thoughts

As is often the case, I've barely scratched the surface of the vastness of artificial intelligence. I kept thinking of more things to discuss as I wrote this article. I'll return to this topic now and then in 2024, both in articles and in a few of my monthly seminars.

Robotics and AI are not without concerns. Human workers, especially those in lower-skilled manual and clerical jobs, will likely be displaced. Even in creative professions, AI may be able to replace many workers by automatically synthesizing new works of art. Society must have a plan for repurposing these displaced workers.

AI will affect business, generally making it more efficient and productive. However, it can also make it easier for companies to manipulate consumers.

AI can amplify the power of government for good and evil. In the hands of despots, AI could become the ultimate tool for imposing tyranny. Used for good, AI may vastly elevate happiness and prosperity worldwide.

Reprinted from the newsletter of https://www.scgcc.club_tomburt89134@cox.net.

***** BITS and PIECES in the NEWS *****

Editor's Note: To continue reading the following articles, you may copy the long URL at the end of the article and enter it into a web browser **or** click on the URL in the PDF or web versions of this newsletter.

AI is Cracking a Hard Problem - Giving Computers a Sense of Smell

By Ambuj Tewari, May 30, 2024
Professor of Statistics, University of Michigan

Over 100 years ago, Alexander Graham Bell asked the readers of National Geographic to do something bold and fresh – "[to found a new science](#)." He pointed out that sciences based on the measurements of sound and light already existed. But there was no science of odor. Bell asked his readers to "measure a smell."

Today, smartphones in most people's pockets provide impressive built-in capabilities based on the sciences of sound and light: voice assistants, facial recognition and photo enhancement. The science of odor does not offer anything comparable. But that situation is

*** * Jokes & Quotes Stolen
from Everywhere * ***

Dumb Jokes: SUMMER

Why don't seashells take baths?
Because they wash up on the beach.

What do you get when you cross an elephant and a fish?
Swimming trunks.

Where do birds stay when they go on vacation? Someplace cheep.

What happens when ice cream gets angry? It has a meltdown.

What did the tree say when summer finally arrived? What a re-leaf.

Where do boats go when they're sick? To the dock.

How many blueberries can you grow on a bush? All of them.

Why did the watch go on vacation? To unwind.

Why do bananas wear sunscreen? Because they peel.

Why did the whale blush? It saw the ocean's bottom.

What sits on the seabed and has anxiety? A nervous wreck.

What happens to cows that get too much sun? They turn into evaporated milk.

Why couldn't the bike stand up? It was two-tired.

What do fish use to buy groceries? Sand dollars.

Why did the golfer bring two pairs of pants to the course? In case he got a hole in one.

Why didn't the sun go to college? It already had a million degrees.

changing, as advances in machine olfaction, also called “digitized smell,” are finally answering Bell’s call to action.

Research on machine olfaction faces a formidable challenge due to the complexity of the human sense of smell. Whereas human vision mainly relies on [receptor cells in the retina](#) – rods and three types of cones – smell is experienced through about 400 types of [receptor cells in the nose](#).

Machine olfaction starts with sensors that detect and identify molecules in the air. These sensors serve the same purpose as the receptors in your nose.

But to be useful to people, machine olfaction needs to go a step further. The system needs to know what a certain molecule or a set of molecules smells like to a human. For that, machine olfaction needs machine learning.

Such progress in cracking the code of smell is not only intellectually exciting but also has highly promising applications, including personalized perfumes and fragrances, better insect repellents, novel chemical sensors, early detection of disease, and more realistic augmented reality experiences. The future of machine olfaction looks bright. It also promises to smell good.

Check it out at <https://theconversation.com/ai-is-cracking-a-hard-problem-giving-computers-a-sense-of-smell-221731>

Researchers Wonder What if you Just Put a Robot in the Driver's Seat Instead of Automating the Car?

by Bob Yirka , Tech Xplore, June 14, 2024

A team of roboticists at the University of Tokyo has taken a new approach to autonomous driving—instead of automating the entire car, simply put a robot in the driver's seat. The group built a robot capable of driving a car and tested it on a real-world track. They also published a [paper](#) describing their efforts on the *arXiv* preprint server.

Virtually all efforts to build a [self-driving car](#) have focused on making the car itself autonomous—humans sit in the passenger seat or in the back. These efforts involve adding a host of sensors in addition to processing power. They have also been met with mixed results.

In this new effort, the research team wondered if it might not be easier and cheaper simply to build a [robot](#) that can be taught how to drive a car and put it in the driver's seat of a normal vehicle. To find out if that might be possible, they built such a robot and tested it on a track at the University of Tokyo's Kashiwa Campus.

Finish this article on <https://techxplore.com/news/2024-06-robot-driver-seat-automating-car.html>.

Odds and Ends

Invisible Invaders: How Microplastics Sneak Into Your Brain

By Nicole San Roman, 6/14/24
University of New Mexico researchers have identified that microplastics, once ingested, can migrate from the gut to organs such as the liver, kidneys, and brain, potentially causing significant health issues.

It's happening every day. From our water, our food, and even the air we breathe, tiny plastic particles are finding their way into many parts of our body.

But what happens once those particles are inside? What do they do to our digestive system? Research continues to show the importance of gut health. If you don't have a healthy gut, it affects the brain, it affects the liver and so many other tissues. So even imagining that the microplastics are doing something in the gut, that chronic exposure could lead to systemic effects.

"Over the past few decades, microplastics have been found in the ocean, in animals and plants, in tap water and bottled water," Castillo, says. "They appear to be everywhere." Scientists estimate that people ingest 5 grams of microplastic particles each week on average – equivalent to the weight of a credit card.

This article was found on <https://scitechdaily.com/invisible-invaders-how-microplastics-sneak-into-your-brain/>.

A 'liquid battery' Advance

Stanford University, June 12, 2024

As California transitions rapidly to renewable fuels, it needs new technologies that can store power for the electric grid. Solar power drops at night and declines in winter. Wind power ebbs and flows. As a result, the state depends heavily on natural gas to smooth out highs and lows of renewable power.

"The electric grid uses energy at the same rate that you generate it, and if you're not using it at that time, and you can't store it, you must throw it away," said Robert Waymouth, the Robert Eckles Swain Professor in Chemistry in the School of Humanities and Sciences.

Waymouth is leading a Stanford team to explore an emerging technology for renewable energy storage: liquid organic hydrogen carriers (LOHCs). Hydrogen is already used as fuel or a means for generating electricity, but containing and transporting it is tricky.

"We are developing a new strategy for selectively converting and long-term storing of electrical energy in liquid fuels," said Waymouth, senior author of a study detailing this work in the *Journal of the American Chemical Society*. "We also discovered a novel, selective catalytic system for storing electrical energy in a liquid fuel without generating gaseous hydrogen."

And for all the complicated and challenging work behind the scenes, the process, as summarized by Waymouth, is actually quite elegant: "When you have excess energy, and there's no demand for it on the grid, you store it as isopropanol. When you need the energy, you can return it as electricity."

Read about this on

<https://www.sciencedaily.com/releases/2024/06/240612140807.htm>.

CLUB and REGIONAL NEWS

**** July and August, summer hiatus - No Meetings ****

RIT Student Video Game Wins Big at GameFest 2024

by [Scott Bureau](#), May 28, 2024

'Mushroom Kid's Big Grass Sword' takes players on a sword-swinging journey

The platformer game follows Mica, a little mushroom on a journey to claim a powerful weapon and rescue its village after the residents are captured by a gigantic bird. A demo of the game is [available on Steam](#), with a more complete game currently in development.

GameFest, held at Rensselaer Polytechnic Institute in April, is an annual showcase of student talent in game development. The competition brings together students from around New York state and the Northeast to exhibit their games. Thirty-eight games were accepted this year.

Ugly the Cat: Missiles and Mayhem was named a finalist at GameFest 2024. The RIT student-created game was made for a production studio course involving the PlayStation 5 dev kit.

Three other RIT student games were named finalists at the 2024 competition, including:

- [Ninjas on Trampolines](#)—finalist in the Excellence in Design, Stupid Fun (to Play) category.
- [Value](#)—finalist in the Excellence in Design category.
- [Ugly the Cat: Missiles and Mayhem](#)—finalist in the Technical Excellence category.

For all you gamers, check this out <https://www.rit.edu/news/rit-student-video-game-wins-big-gamefest-2024>.

RIT's Battery Prototyping Center Merges with NY-BEST Test and Commercialization Center

by [Michelle Cometa](#), May 31, 2024

Battery development and storage ecosystem emerges as a comprehensive resource to contribute to regional and national economic growth.

The Battery Prototyping Center at Rochester Institute of Technology and the Battery and Energy Storage Technology (BEST) Test and Commercialization Center have merged to become a comprehensive battery development enterprise in New York state.

The university-led merger, which was announced on May 16 during the annual [Capture the Energy 2024](#) Conference and Expo in Albany, N.Y., will be designated the RIT [Battery Development Center](#), in partnership with [NY-BEST](#). It brings together two distinct areas of expertise necessary for battery development and energy storage initiatives—the prototyping, training, and research capabilities based at RIT, and the systems safety and life-cycle testing, certification, and commercialization expertise of the center.

“The [Battery Development Center](#) will be a one-stop shop for all battery development needs and is a significant addition to the lithium ion battery ecosystem,” said Raffaele. Integrating industry and academic collaborations can expand research, prototyping, and testing processes and provide a centralized platform to connect all sectors in the broad range of battery and storage technologies in New York and the United States,” said [Matthew Ganter](#), director of the RIT Battery Development Center (BDC) and assistant research professor in the university’s [Department of Chemical Engineering](#).

Continue at <https://www.rit.edu/news/rits-battery-prototyping-center-merges-ny-best-test-and-commercialization-center>.

Got Questions?

Send an email to either person below and they will get back to you. The questions can be related to the OS (Operating System) or hardware related issues. Please give them time for a response, as they do this service on a volunteer basis. Thank you.

Windows OS: Arpad Kovacs, podcomputer@gmail.com

Linux & some Mac: Carl Schmidtman, unixgeek@faultline.com

Our Meeting Place
St John's Meadows at
Johnsarbor Drive, is on the left,
past Clinton Avenue, when
going West on Elmwood
Avenue. The opening in the
white fence is Johnsarbor
Drive. At the 'T', turn right.
The meeting is in the SECOND
building on the left –
Chestnut Court.

www.rcsi.org