

Willow Valley Computer Club

May 2023 | Newsletter | Volume 24, Issue 3

Programs are at 2:00 pm the first Thursday of the month (except July-August) in the Cultural Center unless otherwise noted.

Inside this issue:(Click link below)

- [Renaissance Classes Summer '23](#)
- [Artificial Intelligence, Machine Learning, What Are They?](#)
- [Computer Club Technology Ctr](#)

Computer Club Leadership

- President: Al Williams
- Vice President: Susan Culbertson
- Secretary: Gary Staton
- Treasurer: Lee Wermuth
- Previous President: Sid Paskowitz

Committee Chairpersons

- Apple SIG: Dick Beidleman
- Computer Room: Lee Wermuth
- Newsletter: Susan Culbertson
- Publicity: Ann Willets
- SmartLife: Al Fulvio
- Training: Bill Skelly
- Webmaster: Sid Paskowitz

Director

- CCTC: Cathy Thorn

Advisors

- Bruce Mawson
- Tony Poulos
- Bob Scala

President's Pen by Al Williams

Welcome to the May 2023 issue of the Computer Club newsletter.

A tutorial for those who know nothing about artificial intelligence and machine learning appears in this issue. The tutorial was written to help you recognize "snake oil" claims when you're reading about artificial intelligence and machine learning.

An invitation: The Willow Valley Computer Club provides presentations of general interest, courses for specific topics, time-critical alerts, and this newsletter. If you would like to present, teach, write or be involved in some other way in the Computer Club, please let me know. Thank you.

Suggestions appreciated: If you have a suggestion as to how we can improve the Computer Club, please let me know by emailing me at atwilliams136@gmail.com. Thank you!

Opportunity to help us help residents: We would like a volunteer to help oversee our Computer Club Technology Center. The description of the Deputy Director position is in this newsletter ([page 8](#)). Just four hours a week would be a big help!

~Al Williams

Electronic Waste (E-waste)
What is it? How does it impact the environment?

WVCC Monthly Program
May 4 @ 2:00 pm
CC Theater

Renaissance Summer 2023 Computer & Technology Classes

Willow Valley Computer Club (WVCC) & Apple Users Club at Willow Valley (AUC)

The following are planned computer classes for inclusion in the Summer Renaissance. Detailed descriptions will be available in the Summer Renaissance. Please confirm the scheduled dates and times when the Summer Renaissance is published. Then use the Event Registration System to register.

Computer Club Membership Benefits (WVCC)

Tuesday, May 30

10:00 am - 11:00 am

Cultural Center Education Room

Presenter: Ann Willets, Lakes Resident

Introduction to iPhone's Health App (AUC)

Monday, June 5

10:00 am - 11:30 am

Cultural Center Education Room

Presenter: Susan Culbertson, SouthPointe Resident

Bitwarden 102 Password Manager (WVCC)

Wednesday, June 28

1:30 pm - 2:30 pm

Cultural Center Education Room

Presenter: Jay Shah, North Resident

Windows 10 Productivity Features (WVCC)

Wednesday, July 26

10:00 am - 11:00 am

Cultural Center Education Room

Presenter: Sid Paskowitz, Spring Run Resident

Understanding TiVo (WVCC)

Tuesday, August 8

1:30 pm - 2:30 pm

Cultural Center Theater

Presenter: Tony Poulos, Spring Run Resident

All Things Apple at Willow Valley (AUC)

Wednesday, May 31

1:30 pm - 2:30 pm

Cultural Center Education Room

Presenter: Susan Culbertson, SouthPointe Resident

Bitwarden 101 Password Manager (WVCC)

Thursday, June 8

1:30 pm - 2:30 pm

Cultural Center Education Room

Presenter: Jay Shah, North Resident

Managing Your Modem & Router (WVCC)

Tuesday, July 11

10:00 am - 11:00 am

Cultural Center Education Room

Presenter: Tony Poulos, Spring Run Resident

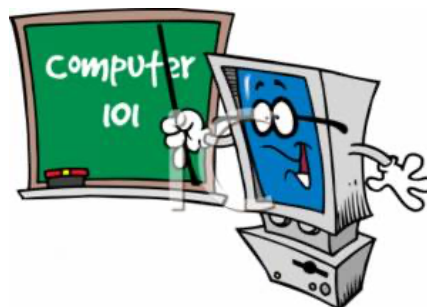
PC Routine Housekeeping (WVCC)

Thursday, August 3

1:30 pm - 2:30 pm

Cultural Center Education Room

Presenter: Sid Paskowitz, Spring Run Resident



Artificial Intelligence. Machine Learning. What are they?

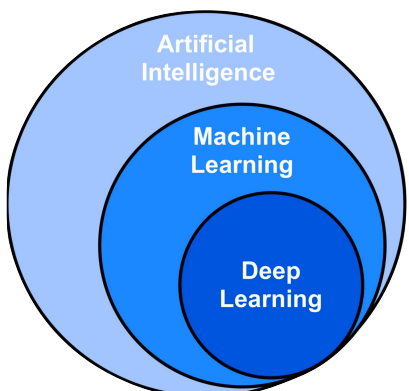
by AI Williams

News and discussions about ChatGPT are everywhere. Most of us are unfamiliar with artificial intelligence and machine learning. We have questions. What are they? How will they change my life? Are they risky? This article will introduce you to ChatGPT, artificial intelligence, and machine learning.

It isn't possible to predict all the changes in our lives that ChatGPT and similar products will cause, though we can confidently predict some of these changes will be dramatic. Also, it isn't possible to foresee all the risks although it is known that these products can and do provide quite persuasive sounding misinformation.

In brief, artificial intelligence is a computer, or other machine, that does tasks or activities that we think require intelligence. Machine learning is a branch of study within artificial intelligence. Machine learning uses algorithms and data which emulate the way humans learn but its data processing procedures are just that, they do not add up to what we understand as general intelligence.

Deep learning is a kind of machine learning associated with complex neural networks which function in ways inspired by the human brain. The difference between machine learning and deep learning is the number of layers in a neural network (the degree of complexity). Deep learning occurs when three or more layers of artificial neurons are used.



If you would like to explore the explanations of artificial intelligence, machine learning, and deep learning at a high level, IBM has three excellent articles:

- *What is Artificial Intelligence* at <https://www.ibm.com/topics/artificial-intelligence>
- *What is Machine Learning* at <https://www.ibm.com/topics/machine-learning>
- *AI vs. Machine Learning vs. Deep Learning vs. Neural Networks* at <https://www.ibm.com/cloud/blog/ai-vs-machine-learning-vs-deep-learning-vs-neural-networks>

The remainder of this article explains these terms by starting at a basic level.

“The way to get it [ChatGPT] right is to have people engage with it, explore these systems, study them, to learn how to make them safe.”

The Wall Street Journal quotes Sam Altman, the CEO of OpenAI, the organization that developed ChatGPT, as saying that his goal “is to forge a new world order in which machines free people to pursue more creative work.” Altman also said: “The way to get it [ChatGPT] right is to have people engage with it, explore these systems, study them, to learn how to make them safe.”[i]

Much of the news that you’ll see or read about artificial intelligence and machine learning will be inaccurate or misleading. This article introduces the basics which will help you understand what artificial intelligence and machine learning can do and help you discern false claims.

Your computer does what it is told to do. As you work on an email, your computer displays each character as you type. When you type the name of a website into your browser (Chrome, Firefox, etc.), your computer goes to

that website. When you direct your computer to do something it does. You would also like your computer, or perhaps a website, to predict what is going to happen. If you use a weather app, the app predicts the temperature and precipitation. You can also use software that tries to predict the stock market. Neither work very well. A major reason is that so many different factors impact the weather or the stock market. However, predictions become better when working with fewer factors that impact the accuracy of the prediction, and working with more data to base those predictions on. Let's say you own a bicycle rental shop in a very popular resort area. The climate is mild with occasional snow and some very hot days. Your shop is in a very good location and you have quality bicycles that you keep in good shape. You know that your location, the climate, and the quality of your bicycles will help you be successful. You'd like to be able to predict how many bicycles you need at any time of day so that you have enough bicycles on hand and the staff to help your customers and to keep the bicycles clean and working well. You've tracked the number of bicycles rented for every hour and

every day for the past six years. You've also tracked every hour the temperature, humidity, the amount of rain per hour, and the amount of snow per hour. How can you use these factors and data to predict your needs?

Although artificial intelligence, which has the appearance of being smart, gets the headlines, machine learning goes beyond artificial intelligence. Machine learning applies algorithms to data to identify patterns, make predictions, make decisions, and improve the algorithms. A technology known as neural networks extends machine learning to work with more complex data.

As the owner of the bicycle shop, using neural network technology is a good approach. Neural network technology works in a way similar to the way the human brain works. Some things are more important than others. For example, a life-threatening situation is critical. Watching the pots on a stove is important. Keeping the room at a pleasant temperature is usually not as important.

To use the machine learning software for your bicycle shop, you provide the six years of data and work with someone who knows how to get the neural network started.

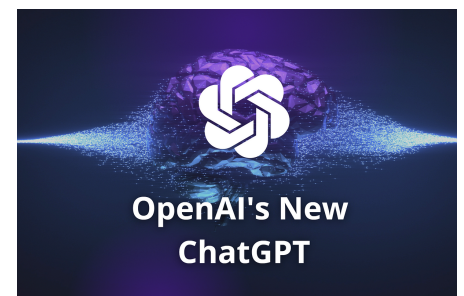
Your six years of data will be divided into three parts. The first part will be used to train the machine learning software. The machine learning algorithm will repeatedly make small adjustments to the prediction curves and weights (importance) in the network until the predictions using the training data are as accurate as they can be. After the training is complete, the second part of your data will be used to test the accuracy of the predictions. If necessary, the prediction curves and weight for each curve will be adjusted again. The third part will be used to validate the software's predictions.

As the bicycle shop owner, once the process is complete, you have software that will predict the number of bicycles needed per hour and therefore the staff that you will need, given the temperature, humidity, rain per hour, and snow per hour. You will also have an idea as to how accurate the predictions are.

The bicycle rental shop example describes machine learning using supervised learning. There are other types of learning.

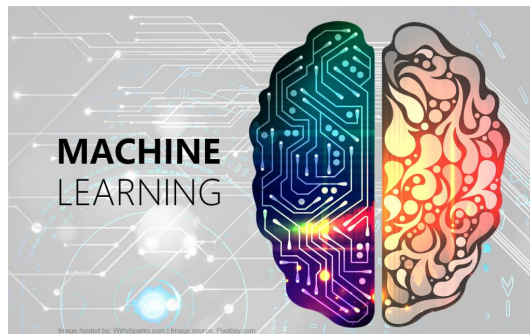
The ultimate goal of this article is to help you understand how machine learning works. It's also helpful to see what can be done with machine learning beyond the bicycle rental shop example. ChatGPT is an example of advanced usage of machine learning. The article *8 Surprising Things You Can Do With ChatGPT* illustrates the range of what is possible.

The article is at <https://www.howtogeek.com/871367/surprising-uses-for-chatgpt/>



The following five articles were selected to answer questions that may arise about artificial intelligence and machine learning after reading the bicycle rental shop example or reading about chatbots. You are encouraged to follow the links in the articles to other resources. Each article builds on the previous article. I've provided paragraphs from each article to give you an idea what the article is about and to encourage you to read the article.

Once you've learned the basics in the articles, the video that is described at the end of this article pulls the concepts together and demonstrates how prediction curves are generated. As you watch the video focus on the author's description of the concepts and the process of making prediction curves, not on the details.



In the article *What Is Machine Learning?*, Dave McKay discusses the different types of computer learning. He begins his article:

The article is at <https://www.howtogeek.com/739430/what-is-machine-learning/>. It has links that you may find interesting.

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“Defining intelligence is tough. We all know what we mean by intelligence when we say it, but describing it is problematic. Leaving aside emotion and self-awareness, a working description could be the ability to learn new skills and absorb knowledge and to apply them to new situations to achieve the desired outcome.

Given the difficulty in defining intelligence, defining artificial intelligence isn't going to be any easier. So, we'll cheat a little. If a computing device is able to do something that would usually require human reasoning and intelligence, we'll say that it's using artificial intelligence.”

Machines are learning but are not understanding. In *The Problem With AI: Machines Are Learning Things, But Can't Understand Them*, Chris Hoffman states early in his article:

The complete article is at <https://www.howtogeek.com/394546/the-problem-with-ai-machines-are-learning-things-but-cant-understand-them/>

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“We're not attacking machine learning here! Machine learning is a fantastic technology with a lot of powerful uses. But it's not general-purpose artificial intelligence, and understanding the limitations of machine learning helps you understand why our current AI technology is so limited.

The ‘artificial intelligence’ of sci-fi dreams is a computerized or robotic sort of brain that thinks about things and understands them as humans do. Such artificial intelligence would be an artificial general intelligence (AGI), which means it can think about multiple different things and apply that intelligence to multiple different domains. A related concept is ‘strong AI,’ which would be a machine capable of experiencing human-like consciousness.

We don't have that sort of AI yet. We aren't anywhere close to it. A computer entity like Siri, Alexa, or Cortana doesn't understand and think as we humans do. It doesn't truly ‘understand’ things at all.”

The MIT Sloan School of Management published the article *Machine Learning, Explained*. In the article, the director of the MIT Center for Deployable Machine Learning stated:

“While not everyone needs to know the technical details, they should understand what the technology does and what it can and cannot do, ... I don't think anyone can afford not to be aware of what's happening.”

The first four paragraphs of the MIT article state:

“Machine learning is behind chatbots and predictive text, language translation apps, the shows Netflix suggests to you, and how your social media feeds are presented. It powers autonomous vehicles and machines that can diagnose medical conditions based on images.

When companies today deploy artificial intelligence programs, they are most likely using machine learning — so much so that the terms are often used interchangeably, and sometimes ambiguously. Machine learning is a subfield of artificial intelligence that gives computers the ability to learn without explicitly being programmed.

‘In just the last five or 10 years, machine learning has become a critical way, arguably the most important way, most parts of AI are done,’ said MIT Sloan professor Thomas W. Malone, the founding director of the [MIT Center for Collective Intelligence](#) ‘So that’s why some people use the terms AI and machine learning almost as synonymous ... most of the current advances in AI have involved machine learning.’

The complete MIT article may be read at <https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained>.

With the growing ubiquity of machine learning, everyone in business is likely to encounter it and will need some working knowledge about this field. A [2020 Deloitte](#) survey found that 67% of companies are using machine learning, and 97% are using or planning to use it in the next year.”

Coursera also published an article about machine learning, *7 Machine Learning Algorithms to Know; A Beginner’s Guide*. The first two paragraphs state:

“Machine learning (ML) can do everything from analyzing x-rays to predicting stock market prices to recommending binge-worthy television shows. With such a wide range of applications, it’s little surprise that the global machine learning market is projected to grow from \$21.7 billion in 2022 to \$209.91 billion by 2029, according to Fortune Business Insights.

The Coursera article may be read at <https://www.coursera.org/articles/machine-learning-algorithms>

At the core of machine learning are algorithms, which are trained to become the [machine learning models](#) used to power some of the most impactful innovations in the world today. In this article, you will learn about seven of the most important ML algorithms to know as you begin your own machine learning journey and explore the different learning styles used to turn ML algorithms into ML models.”

SAS, an analytics and data management company in the United Kingdom, published *A guide to the types of machine learning algorithms and their applications*. The guide begins:

“The term ‘machine learning’ is often, incorrectly, interchanged with Artificial Intelligence, but machine learning is actually a sub field/type of AI. Machine learning is also often referred to as predictive analytics, or predictive modelling. Coined by American computer scientist Arthur Samuel in 1959, the term ‘machine learning’ is defined as a “computer’s ability to learn without being explicitly programmed”.

The complete guide may be read at https://www.sas.com/en_gb/insights/articles/analytics/machine-learning-algorithms.html

At its most basic, machine learning uses programmed algorithms that receive and analyse input data to predict output values within an acceptable range. As new data is fed to these algorithms, they learn and optimise their operations to improve performance, developing ‘intelligence’ over time.

There are four types of machine learning algorithms: supervised, semi-supervised, unsupervised and reinforcement.”



To understand something, it is helpful to see demonstrations. An explanation of Machine Learning that pulls these concepts together is given in this nearly four-hour video, *Machine Learning for Everybody – Full Course*, given by Kylie Ying at https://www.youtube.com/watch?v=i_LwzRVP7bg. She covers supervised and unsupervised learning and techniques for working with each. This course is intended for machine learning beginners and has over 1 million views. The course reviews the terminology described above and then demonstrates almost all of the various concepts. You should watch until at least the 31-minute mark before deciding whether or not the video is helpful.



I suggest that you also use ChatGPT to get an idea what it will do. You may login or create an account at <https://chat.openai.com/auth/login?next=%2Fchat>. You may find it convincingly smart and articulate, but be aware it is capable of spouting complete nonsense, even making up “facts.”



Working with ChatGPT, reading the articles and watching the video should help prepare you to further explore the world of artificial intelligence, machine learning, and data science. A suggested further reading is this interesting article published by MIT Technology Review, titled *Three ways AI chatbots are a security disaster*, which describes how pairing chatbots with a variety of products can create potential security problems. The article is at <https://www.technologyreview.com/2023/04/03/1070893/three-ways-ai-chatbots-are-a-security-disaster/>

[i] *Wall Street Journal*, April 1-2, 2023, Page B6

WVCC mission:
“to provide the means to educate beginners or interested non-users on how to use a computer”

WVCC mission:
“to provide a forum for interchange of computer information among members”

WVCC mission: “to arrange for speakers to talk about subjects of interest to those with some background and experience in computer use”

Computer Club Technology Center

NOTE: The Computer Club Technology Center (CCTC) is open on Mondays only, from 10 am to 4 pm. The CCTC is located on the 5th floor of Manor North 'J' building. The door may be closed, but with a sign indicating *Please Knock*.

Apple Items Available: See Bruce Thompson in the CCTC.

Willow Valley Computer Club Job Description

Volunteer Position Title: Deputy CCTC Director

Description of Role: The Deputy CCTC Director assists the CCTC Director as needed to accomplish the objectives set forth by the Willow Valley Computer Club's Executive Committee.

Training: The CCTC Director will provide training as needed for the Deputy CCTC Director to successfully accomplish their assignments.

Reporting: The Deputy CCTC Director will report to the CCTC Director.

Time Commitment: A minimum of four hours per week is needed. The candidate must be able to work during hours acceptable to the CCTC Director

Qualifications: Prior operations experience is desirable. A willingness to learn is imperative.

Inventory

SFF (Small Form Factor) PCs for Residents

10 Elite Desk
2 Pro Desk
1 LG tablet

Laptop PCs for Charity

9 HPs various models

Staples will take printers for recycling. We need a volunteer to transport these once a month. We will keep 3 of the best printers in inventory. Current printer inventory is greater than 15.

The CCTC will no longer accept TVs. Best place to take these is Cash and Carry.

Starting in May 2023 we will be determining how best to record the traffic in the Center. Currently we help approximately 6-8 people per week with various problems from software and operating systems updates, how to use specific software (often Malwarebytes and CCleaner), when and how to run system updates, hard drive problems, upgrading memory, help with LibreOffice or Microsoft Office, moving data from old drives to new ones, etc.

In addition, we re-image (clone) donated PCs to the CCTC standard format.

We have at least 11 SSF PCs to be re-imaged and evaluated for performance.

There are still 2 large boxes of Free Table items to be evaluated along with boxes of 3.5-inch diskettes. Several boxes of DVDs also need to be evaluated for usefulness.

Cathy Thorn

Contact Information

For more information about the Computer Club, please contact Al Williams via email at wvcomputerclub@gmail.com.

Please keep your email address on Club records current so we can send you important emails. Send email corrections or updates to Lee Wermuth at lweremuth582@gmail.com.

Bill Skelly is the Willow Valley Computer Club Training Coordinator. We are always looking for residents qualified to teach computer-related topics. We want our classes to support your needs. Contact Bill (whskelly@aol.com) to volunteer or to offer ideas on topics needed.