

A futuristic cityscape with a large building under construction. The building has multiple levels with balconies and railings. The scene is lit with a mix of blue and orange light, suggesting a sunset or sunrise. In the foreground, there are some construction materials and a small vehicle. The text "AI FOR CONTRACTORS" is overlaid in the center in a bold, yellow font.

AI FOR CONTRACTORS

WHAT IS AI?

- Algorithms and computational models that enable machines to mimic human-like intelligence, learn from data, and perform tasks traditionally requiring human cognition.
- The solution to all your problems.



BUT WHAT IS IT REALLY?

- **A buzzword**
- **Great marketing**
- **Probably not the solution to all your problems**



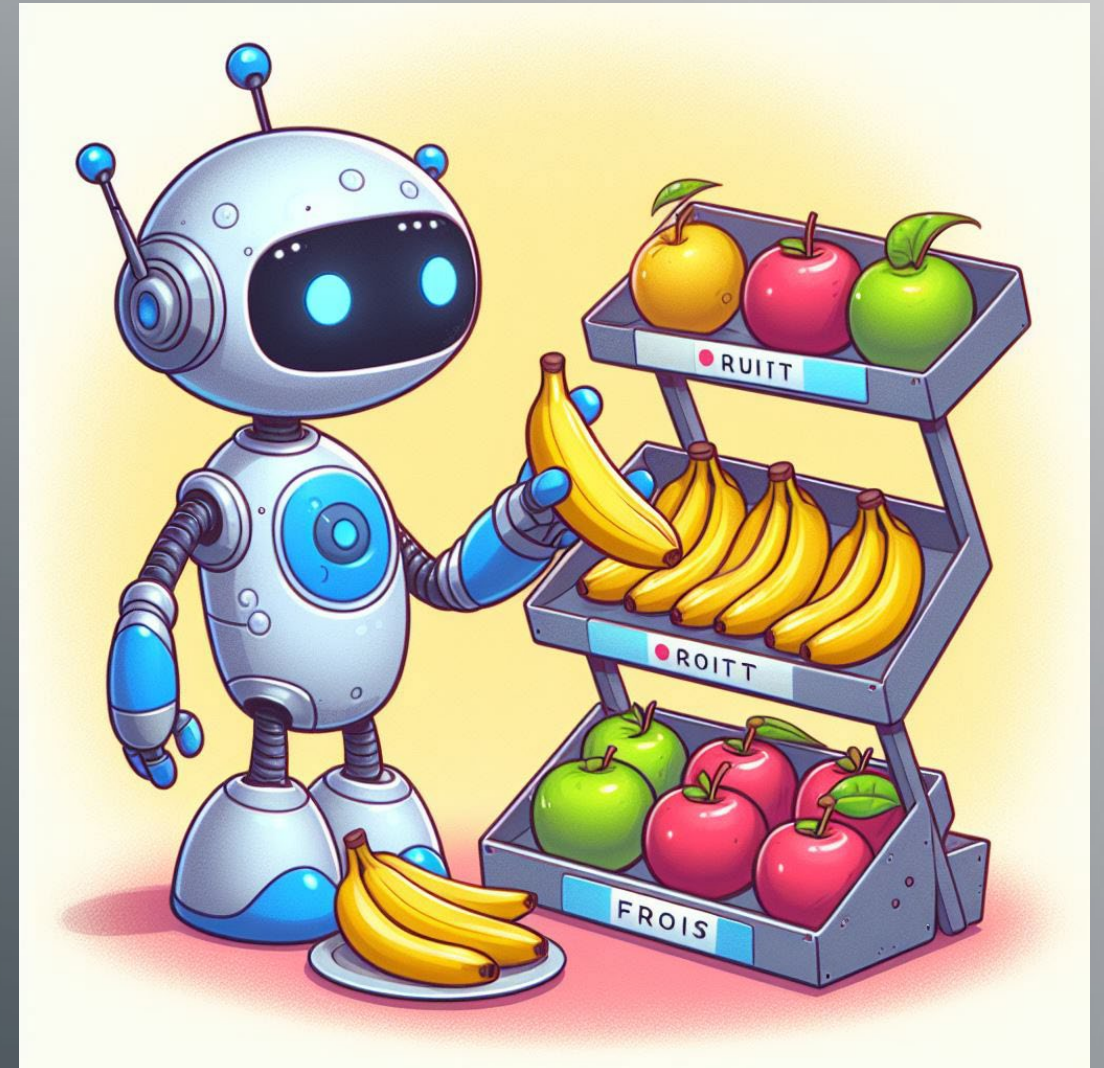
JUST WALK OUT

- In 2020 Amazon launched a 'cashierless' grocery store.
- Amazon implied they were using machine learning, but in reality the company used over one thousand workers in India to label the data that trained its object-recognition AI.



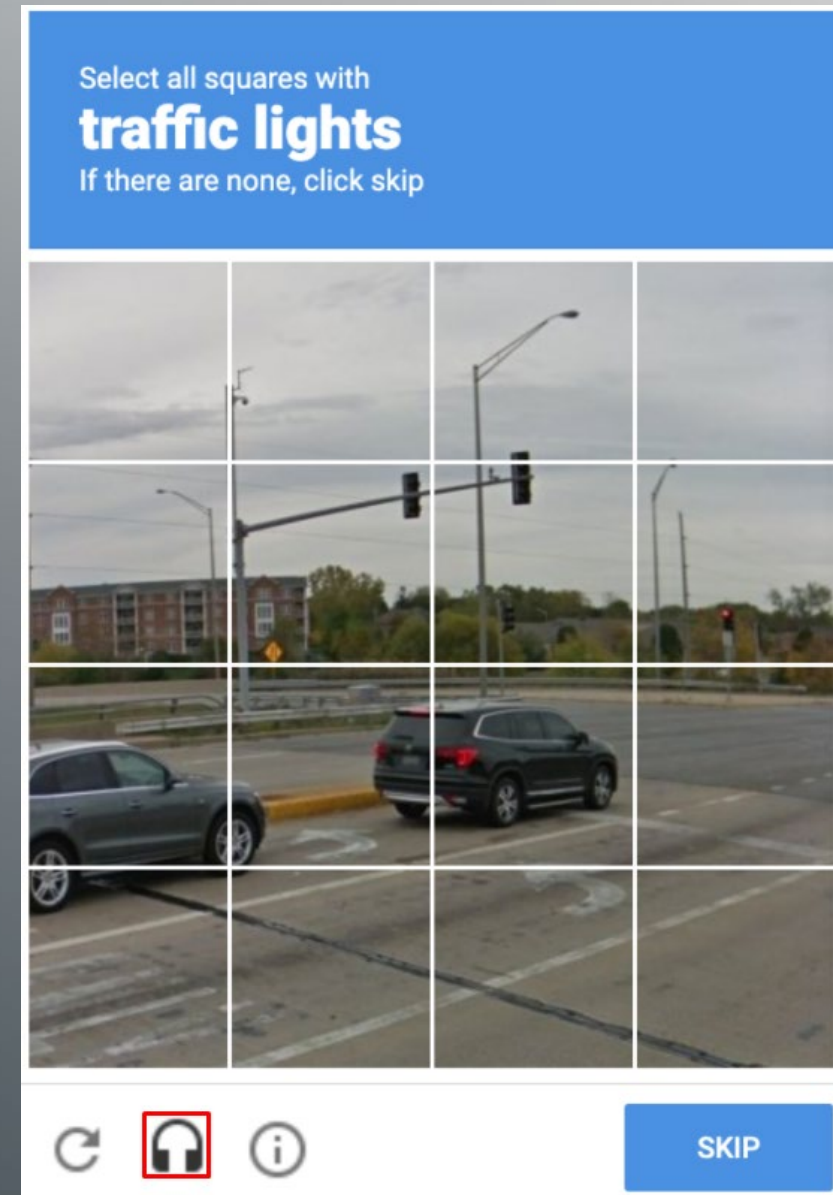
MACHINE LEARNING

- In order to be effective, AI has to be 'trained'.
- Imagine you wanted to teach a robot to recognize a banana.
 - Show it a collection of pictures of bananas.
 - After it's had time to learn about it, shape, color, etc. Begin showing other pictures and asking it to guess.
 - As you verify whether or not its guesses are accurate eventually it will learn how to correctly spot a banana.



AND YOU HELPED!

- Companies have using tools like CAPTCHAs for years to help collect and verify data.
- Whether you knew it or not, you've probably contributed to some machine learning.



A DISCLAIMER

- This technology evolves at a remarkably fast pace.
- What's true today, may not be true tomorrow.
- The only person who can decide how/when to use these tools is you.



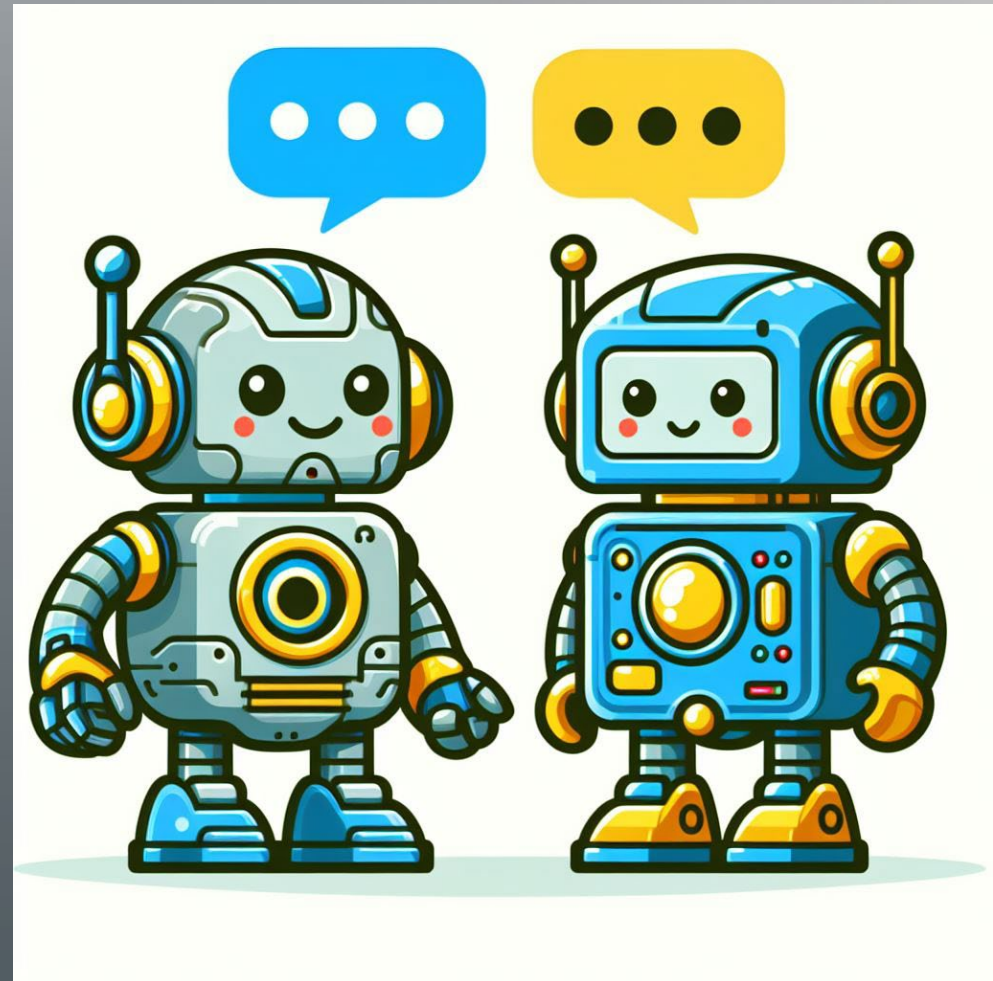
VIRTUAL ASSISTANTS

- Assists users with basic tasks like scheduling appointments, answering questions, or providing information.
- Popular Applications:
 - Google Assistant
 - Amazon Alexa
 - Apple Siri



CONVERSATIONAL AI

- Understands and generate human-like responses to text or speech inputs.
- Two key components:
 - NLU
 - NLG
- Popular tools:
 - ChatGPT
 - Gemini
 - Grok
 - A million others



CHATGPT

- **The most popular chatbot.**
- **49% owned by Microsoft**
- **Also deployed under the name Copilot.**



GEMINI

- **Owned by Google.**
- **Recently replaced Bard.**



GROK

- Developed by X's AI division. (Formerly Twitter)
- Promises to offer a 'sense of humor' and not be 'politically correct'.
- The only tool covered that's completely behind a paywall.

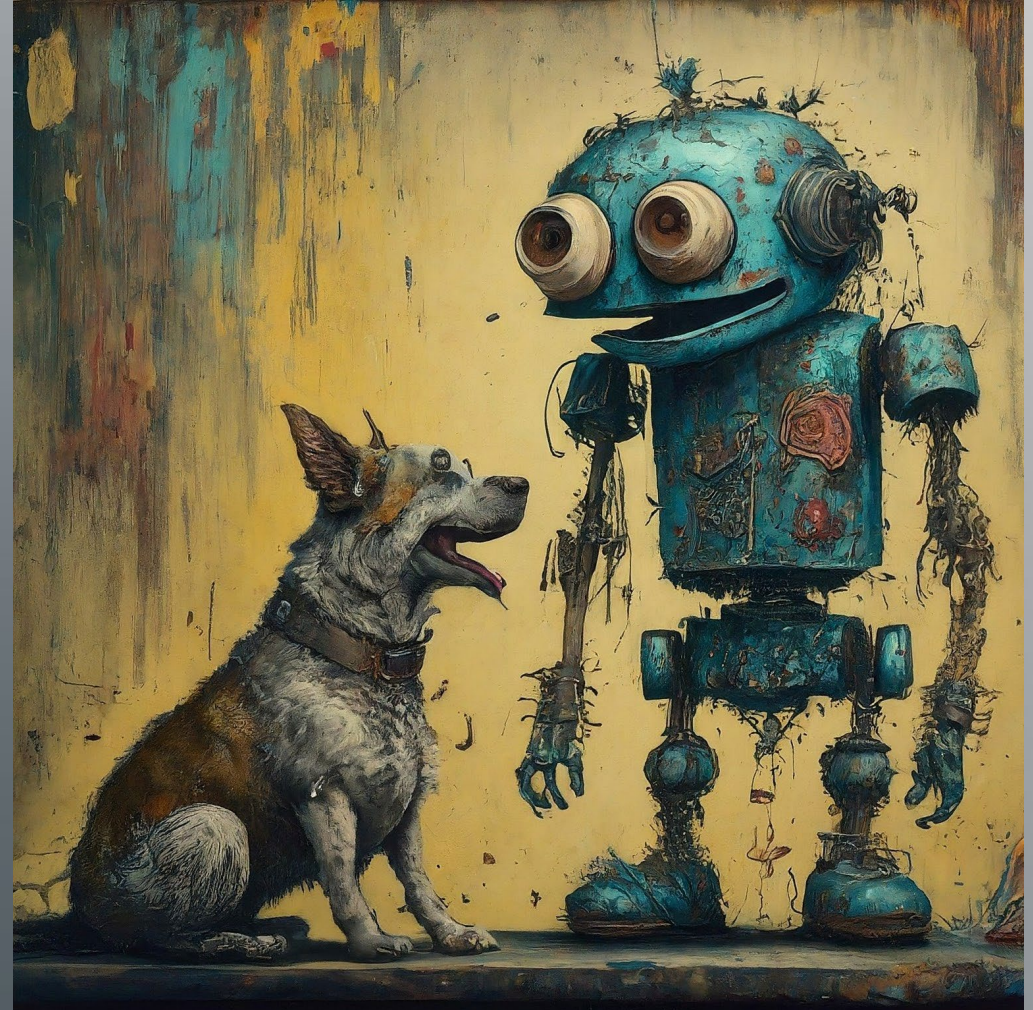


IMAGE RECOGNITION

- **How it's being used now:**
 - Reverse image search.
 - Unlocking phones with your face.
 - Cashierless stores.
- **Potential futures:**
 - Enhanced safety monitoring
 - Automated progress tracking
 - Improved material management



PROJECT MANAGEMENT

- **Multiple construction software vendors are working on integrating AI into their tools.**
 - **At this exact moment nobody has a complete integration worth recommending.**
- **Potential benefits to project management:**
 - **Advanced Risk Prediction**
 - **Automated Scheduling and Resource Allocation**

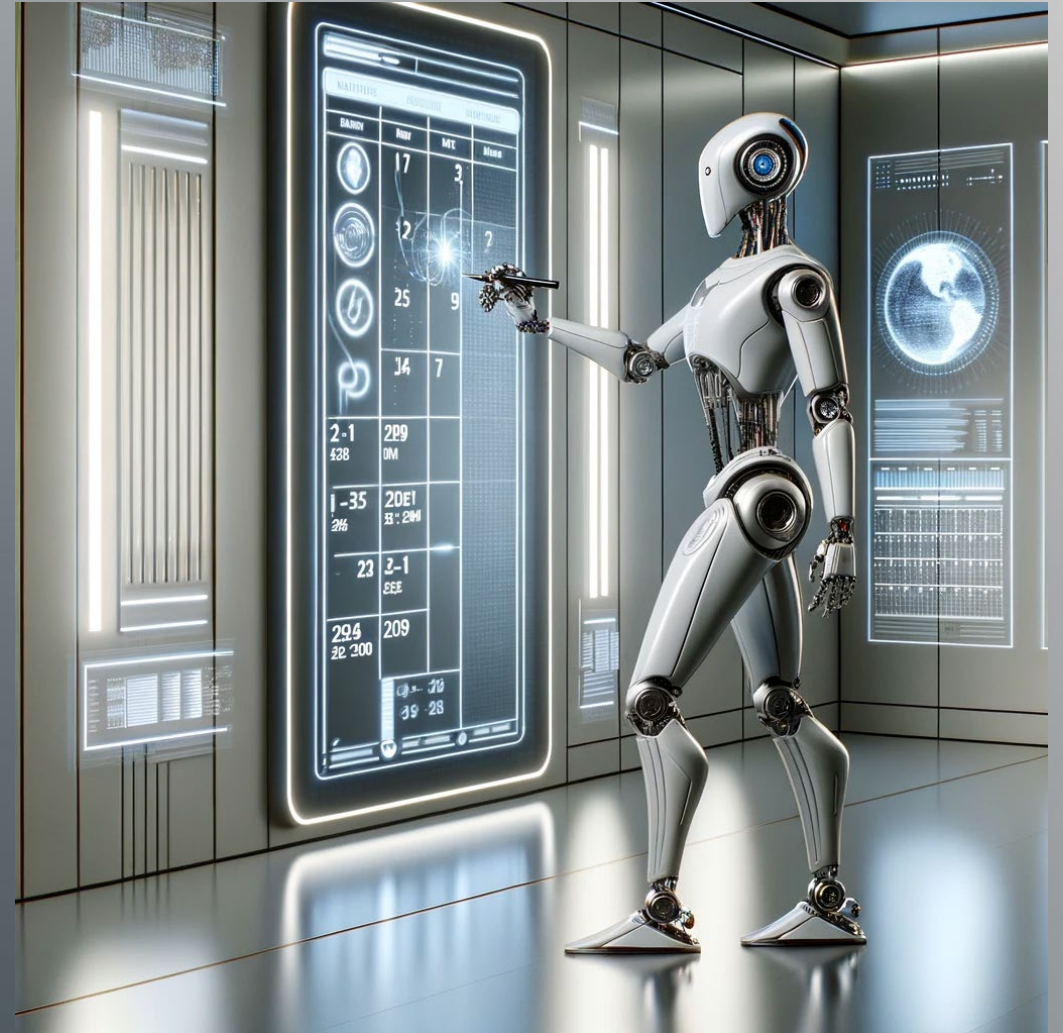


IMAGE GENERATION

- **Generates everything from cartoons to photo-realistic images using prompts.**
- **Popular Tools:**
 - **DALL E – ChatGPT**
 - **Midjourney**
 - **ImageFX**
 - **This Person Does Not Exist**



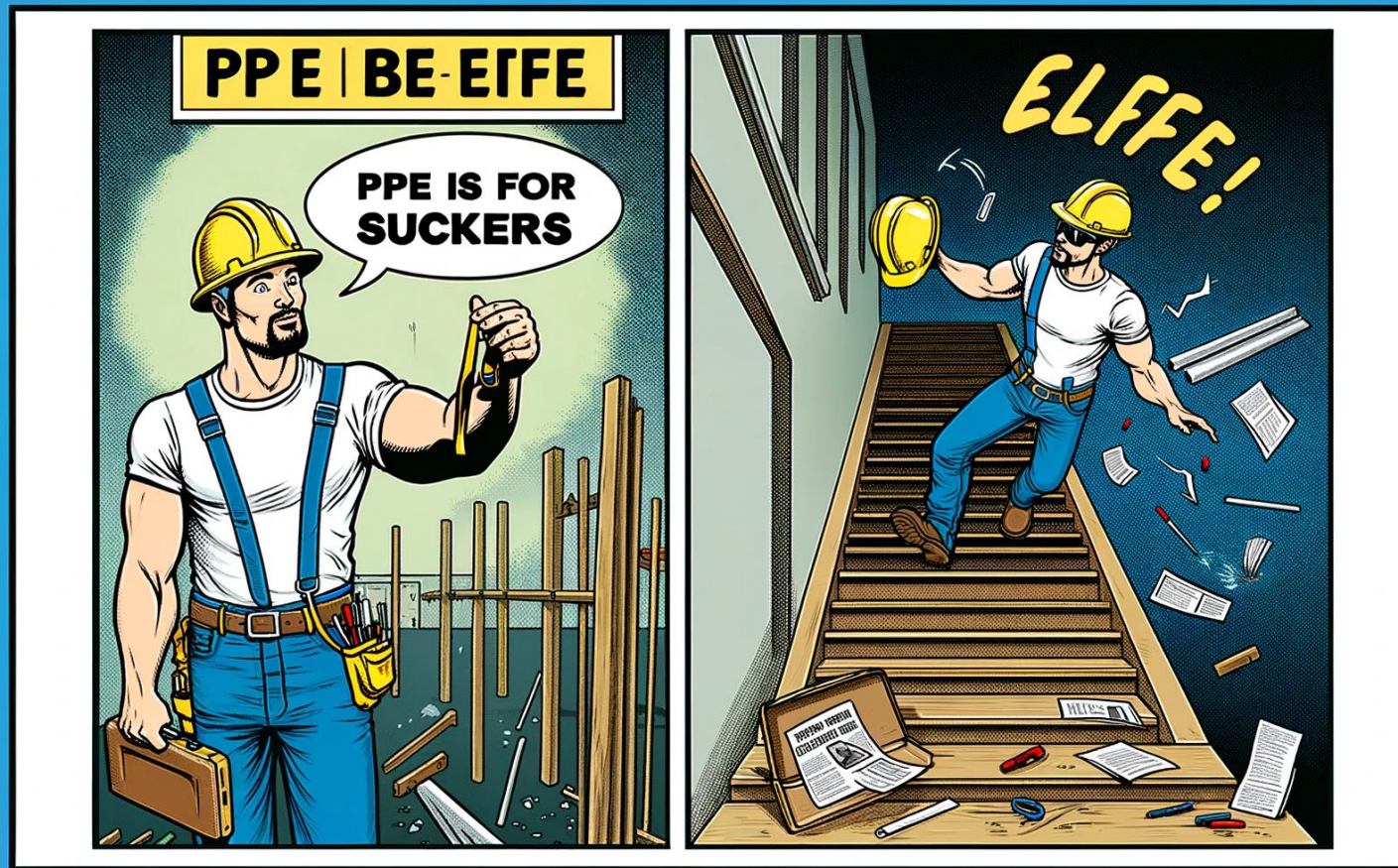
HANDS



ANIMALS



TEXT / LANGUAGE



INFORMATION SHOOTOUT

- We asked 4 AIs different questions about building codes and labor laws.
 - Who was correct most often?
 - Who gave the most useful information?
 - Was anyone just straight up giving bad info?



JOKES

- Write me a construction joke.





A man walks into a hardware store looking for nails. He approaches the counter and asks the clerk, "Excuse me, do you sell nails here?"

The clerk, with a smirk, replies, "Are you kidding? This is a hardware store! Of course we sell nails!"

The man leans in and says conspiratorially, "Well, that's a relief. Because for a minute there, I thought I was at a softwair store!"





ChatGPT



ChatGPT

Why did the construction worker bring a pencil to work?

Because he wanted to draw his own conclusions!





Grok



Grok   @grok

Why did the brick go to therapy?

Because it was having some serious foundation issues and it wanted to get a handle on its anger before it became a real wall-flower!



OpenAI
ChatGPT 4.0



ChatGPT

Why don't skeletons work in construction?

Because they can't handle the concrete pressure—they're always short-handed!



LABOR PROMPT

- How do I pay overtime if my employees work piece rate?





There are two main ways to calculate overtime pay for piece-rate employees, following the Fair Labor Standards Act (FLSA):

Method 1: Regular Rate Calculation

1. **Total Earnings:** Add up all earnings for the workweek, including piece rate earnings, production bonuses, and waiting time pay (if applicable).
2. **Total Hours:** Track and record all hours worked during the week, including productive work, non-productive time, and overtime hours.
3. **Regular Rate:** Divide the total earnings by the total number of hours worked. This is the employee's regular rate of pay for that week.
4. **Overtime Rate:** Take the regular rate and multiply it by 1.5. This is the overtime pay rate.
5. **Overtime Pay:** Calculate the overtime hours worked (hours over 40). Multiply the overtime hours by the overtime pay rate.
6. **Total Pay:** Add the employee's piece rate earnings (and any other bonuses) to the overtime pay amount.

Method 2: Agreed-Upon Overtime Rate (Requires Consent)

With prior written employee consent, you can pay an increased piece rate for units produced during overtime hours. This rate should be 1.5 times the regular piece rate.

Important Notes:

- Employees must still be paid at least the minimum wage for all hours worked, even if their piece rate earnings fall below the minimum wage in a particular week.
- It's crucial to accurately track all hours worked, including non-productive time.
- It's recommended to consult with a qualified professional or the Department of Labor (<https://www.dol.gov/agencies/whd>) for further guidance on complying with FLSA regulations.



ChatGPT



ChatGPT

Paying overtime to employees who work on a piece-rate basis can be a bit more complex than for those who are paid an hourly wage. However, it's still important to ensure that your employees receive fair compensation for any overtime work they perform. Here's a general guideline on how you can handle overtime pay for piece-rate employees:

1. **Know the Regulations:** Familiarize yourself with the labor laws and regulations regarding piece-rate work and overtime pay in your jurisdiction. These can vary from one location to another, so it's essential to understand the specific rules that apply to your business.
2. **Calculate Regular Rate of Pay:** To determine the regular rate of pay for piece-rate employees, divide their total earnings by the total number of hours worked during the pay period. This includes both piece-rate earnings and any additional compensation such as bonuses or incentives.
3. **Determine Overtime Hours:** Identify the number of hours worked beyond the standard threshold for overtime in your jurisdiction. In many places, overtime is typically any hours worked beyond 40 in a workweek, but this can vary.
4. **Calculate Overtime Pay:** Once you know the regular rate of pay and the number of overtime hours worked, you can calculate the overtime pay due to your employees. In most cases, overtime pay is typically 1.5 times the regular rate of pay for each hour worked beyond the standard threshold.
5. **Include Piece-Rate Earnings:** Make sure to include any piece-rate earnings the employee earned during the overtime hours when calculating their total pay for the pay period.
6. **Keep Accurate Records:** It's crucial to maintain accurate records of both hours worked and earnings for each employee. This will help ensure that you're complying with labor laws and can also provide documentation in case of any disputes or audits.
7. **Communicate with Employees:** Be transparent with your employees about how overtime pay is calculated for piece-rate work. Make sure they understand the process and know how their pay is determined.
8. **Regularly Review and Adjust:** Periodically review your overtime pay practices to ensure they remain compliant with any changes in labor laws or regulations. Adjust your processes as needed to continue providing fair compensation to your employees.
9. **Consult with Professionals:** If you're unsure about how to properly handle overtime pay for piece-rate employees, consider consulting with legal or HR professionals who specialize in labor law. They can provide guidance tailored to your specific situation and help ensure that you're following all relevant regulations.

By following these steps and staying informed about relevant labor laws and regulations, you can ensure that your piece-rate employees receive fair compensation for any overtime work they perform.



Grok



Grok   @grok

To pay overtime to employees who work on a piece rate basis, you need to follow a specific calculation method. The Fair Labor Standards Act (FLSA) requires employers to pay non-exempt employees at least the minimum wage for each hour worked and overtime pay at a rate of one and a half times the employees' regular rate of pay for all hours worked in excess of 40 in a workweek.

To ensure that piece-rate employees are earning at least the minimum wage, employers must divide their total piece-rate compensation for the workweek by the number of hours worked. Under the FLSA, employers and employees may agree to compensate nonproductive work hours at a rate that is lower than the rate applicable to productive work, as long as it is at least the minimum wage.

The regular rate of pay for an employee paid on a piecework basis is obtained by dividing their total weekly earnings by the total number of hours worked in that week. Under the FLSA, another way to compensate pieceworkers for overtime, if agreed to before the work is performed, is to pay 1.5 times the piece rate for each piece produced during the overtime hours.

ChatGPT

Paying overtime to employees who work on a piece-rate basis involves a bit of calculation because you need to determine the equivalent hourly rate for the overtime hours worked. Here's a general approach to calculating overtime for piece-rate employees:

1. **Calculate the Piece Rate Pay:** First, calculate the total pay earned through the piece rate for the workweek. This is typically done by multiplying the number of pieces produced by the pay rate per piece.
2. **Determine the Regular Hourly Rate:** To find the regular hourly rate for the workweek, divide the total piece rate pay by the total number of hours worked in the workweek. This gives you the average hourly rate for that week.
3. **Calculate Overtime Pay:** Overtime pay is typically 1.5 times the regular hourly rate for hours worked beyond the standard 40 in a workweek. However, since piece-rate workers don't have a straightforward hourly rate, you use the average hourly rate you calculated in step 2. Multiply this rate by 1.5 to find the overtime rate per hour.
4. **Apply the Overtime Rate:** Multiply the overtime rate by the number of overtime hours worked to calculate the total overtime pay.
5. **Total Compensation:** Add the total piece rate pay to the total overtime pay to find the total compensation for the week.

Here's an example to illustrate:

- Suppose an employee produces 500 pieces in a week, and the pay is \$1 per piece, making their total piece rate pay \$500.
- If they worked 50 hours that week, the regular hourly rate would be \$500 divided by 50 hours = \$10 per hour.
- The overtime rate would then be $\$10 * 1.5 = \15 per hour.
- Since they worked 10 hours over the standard 40 hours, their overtime pay would be 10 hours * \$15 = \$150.
- The total compensation for the week would be the sum of the piece rate pay (\$500) and the overtime pay (\$150), equaling \$650.

It's important to note that labor laws can vary by jurisdiction, so it's wise to consult with a labor law expert or the Department of Labor in your country or state to ensure compliance with specific regulations regarding piece-rate workers and overtime.

BUILDING CODE

- What is the maximum depth you can cut a notch in a 2x6 stud?





The maximum depth you can cut a notch in a 2x6 stud depends on whether it's a load-bearing wall or not:

- **Load-bearing wall stud:** In a load-bearing wall (a wall that supports weight from above), the maximum notch depth is **1.375 inches**, which is **25% of the width of the 2x6 stud** (since a 2x6 is actually 5.5 inches wide). Building codes enforce this limitation to ensure the stud can adequately support the weight placed on it.
- **Non-load-bearing wall stud:** If the stud is in a non-load-bearing wall (a wall that doesn't support weight from above), some sources say you can notch up to **40% of the stud's width**, which would be **2.2 inches** for a 2x6. However, it's important to consult your local building codes as these may have stricter regulations.

General Safety Tips:

- Regardless of the wall type, it's always recommended to **minimize the depth of any notch** as much as possible.
- Consider alternative methods like using **sister studs** (placing another stud next to the notched stud) to maintain structural integrity.
- Notches should be made with a **clean, angled cut**, not a square cut, to reduce the chance of cracks spreading.
- Never notch a stud in the **middle third** of its span, where the bending forces are greatest.

Remember, safety is paramount. If you're unsure about the type of wall or the maximum allowable notch depth, consult a professional or your local building department.



ChatGPT



ChatGPT

The maximum depth you can cut a notch in a 2×6 stud depends on various factors, including local building codes and structural engineering principles. However, a common guideline is that the notch depth should not exceed one-third of the depth of the stud.

For a standard 2×6 stud, which actually measures about 1.5 inches by 5.5 inches in dimension, the maximum depth of the notch would ideally be around 1.83 inches (5.5 inches divided by 3). This guideline helps to ensure the structural integrity of the stud is not compromised.

It's essential to consult with local building authorities and follow applicable building codes and regulations to ensure safety and compliance with structural standards. Additionally, it's advisable to consult with a structural engineer or a construction professional if you have any doubts or concerns about cutting notches in structural members like studs.



Grok



Grok   @grok

The maximum depth you can notch a 2x6 stud is 2 inches.



Zack  @BLKMDL3 · Jan 26

Replying to @niccruzpatane and @MrSaltyP

All new 3s have the fins underneath



Repl

50x1

Anyt



ChatGPT

The depth of a notch cut in a 2×6 stud depends on the building codes that are being followed, as these rules are in place to ensure the structural integrity of the wall and overall building. Generally, for residential construction in the United States, the International Residential Code (IRC) is a common reference.

According to the IRC (as of my last update), the maximum depth for a notch in a load-bearing 2×6 (which is actually 1.5 inches by 5.5 inches in nominal dimensions) wall stud should not exceed one-sixth of the depth of the stud. Therefore, since a 2×6 stud is 5.5 inches deep, the maximum depth for a notch would be:

$$\text{Maximum Notch Depth} = \frac{1}{6} \times 5.5 \text{ inches}$$

Let's calculate that.

The maximum depth you can cut a notch in a 2×6 stud is approximately 0.92 inches, following the general guideline of not exceeding one-sixth of the depth of the stud according to the International Residential Code.

It's important to note that specific projects may have different requirements or additional restrictions, so it's always a good idea to check the local building codes and possibly consult with a structural engineer or building inspector before making significant alterations to structural elements. [-]



SICK LEAVE POLICY

- Write me a policy for my employees letting them know if they are going to miss work more than two days, they will need to provide a doctor's note listing their health conditions.





◆ Here's a policy for your employees regarding sick leave and doctor's notes:

Subject: Absence Due to Illness

Policy:

- **Notification:** Employees are expected to notify their supervisor as soon as possible when they are unable to come to work due to illness. This notification should ideally occur before the start of their scheduled shift.
- **Short-Term Illness:** For absences of one or two days due to illness, a verbal notification to the supervisor is sufficient. Employees are encouraged to use their accrued sick leave for these absences.
- **Extended Illness:** If an absence due to illness is expected to exceed two consecutive workdays, a doctor's note will be required upon return to work. The doctor's note should state the employee's fitness to return to duty and any work restrictions, if applicable.
- **Confidentiality:** The doctor's note should only document the employee's fitness to return to work and any work restrictions. Specific details about the employee's medical condition will not be requested.

Rationale:


This policy helps to ensure the smooth operation of the workplace by allowing us to plan for staffing needs. It also encourages employees to seek medical attention for extended illnesses. We respect our employees' privacy and will maintain the confidentiality of medical information in accordance with applicable laws.

Exceptions:

- **Family and Medical Leave Act (FMLA):** Employees with qualifying medical conditions or family needs may be eligible for leave under the FMLA. In these cases, different documentation requirements may apply. Employees should consult the HR department for details on FMLA leave.
- **Pre-Approved Leave:** Employees who have pre-approved leave for personal reasons (e.g., vacation) are not required to submit a doctor's note.



ChatGPT

 ChatGPT

[Company Name] Attendance Policy

Effective Date: [Date]

Purpose:

The purpose of this policy is to establish guidelines and expectations regarding attendance for all employees of [Company Name]. This policy ensures fair treatment of all employees and promotes a productive work environment.

Policy:

At [Company Name], we understand that unforeseen circumstances may arise that prevent employees from attending work. However, consistent attendance is crucial for the smooth operation of our business. Therefore, employees are expected to report to work as scheduled and to notify their supervisor as soon as possible in case of absence.

If an employee is unable to attend work for more than two consecutive days, they are required to provide a Doctor's note indicating their health condition. The Doctor's note must be submitted to the HR department within three days of their return to work. Failure to provide a Doctor's note may result in disciplinary action, up to and including termination of employment.

Exceptions:

In certain cases, such as hospitalization or other serious medical emergencies, the requirement to provide a Doctor's note may be waived. Employees should communicate such situations with their supervisor and the HR department as soon as possible.

Confidentiality:

All medical information provided by employees will be kept confidential and will only be shared with those who have a legitimate need to know, such as supervisors or HR personnel involved in the attendance management process.

Conclusion:

Consistent attendance is vital to the success of our organization. By adhering to this policy, we ensure fairness, accountability, and the smooth functioning of our operations. If employees have any questions or concerns regarding this policy, they are encouraged to contact the HR department for clarification.

[Company Name] reserves the right to revise, amend, or rescind this policy at any time and for any reason. Employees will be notified of any changes to this policy in a timely manner.





grok
Ai



OpenAI
ChatGPT 4.0

Employee Attendance and Health Documentation Policy

Objective: To maintain a productive and healthy working environment and ensure operational efficiency, this policy outlines the requirements for employees who are unable to attend work due to health-related issues.

Scope: This policy applies to all employees of [Company Name].

Policy Statement:

- 1. Notification of Absence:** Employees are required to notify their supervisor or the Human Resources (HR) department as soon as possible if they are unable to attend work due to illness or a medical condition.
- 2. Absence Duration:**
 - For absences of one or two days due to illness, employees are not required to submit a doctor's note but are encouraged to communicate their expected return date to their supervisor.
 - For absences extending beyond two consecutive days, employees are required to provide a doctor's note to the HR department.
- 3. Content of Doctor's Note:**
 - The doctor's note must include:
 - The date of the medical consultation.
 - A statement confirming that the employee was examined and found to be unable to work due to medical reasons.
 - The expected duration of absence.
 - To respect employee privacy, specific health conditions or diagnoses should **not** be disclosed in the note provided to [Company Name].
- 4. Confidentiality:** All medical information provided to [Company Name] will be treated with strict confidentiality and will only be used to manage the employee's absence and any necessary accommodations.
- 5. Return to Work:** Before returning to work from a medical-related absence of more than two days, employees may be required to submit a fitness-for-work certification from their healthcare provider, depending on the nature of their illness and the requirements of their role.
- 6. Compliance:** Failure to comply with this policy may result in disciplinary action, up to and including termination of employment. Exceptions to this policy may be considered on a case-by-case basis, taking into account individual circumstances and applicable laws.

Support and Accommodations: [Company Name] is committed to supporting the health and well-being of its employees. Employees requiring accommodations or facing challenges in complying with this policy are encouraged to speak with their supervisor or HR representative to discuss their needs.



ENERGY CODE

- What r-rating would my wall need to be at for a residential build in Park City Utah?





✦ In Park City, Utah, which falls under **Climate Zone 6**, the minimum R-value requirement for residential walls is **R-20**.

However, there are a few ways to meet this requirement:

- **Option 1: 2x6 wood frame wall with R-20 cavity insulation**
- **Option 2: 2x4 wood frame wall with R-13 cavity insulation plus R-5 continuous insulation on the exterior**
- **Option 3: Air-impermeable insulation in the wall cavity with an R-value of R-15, provided your home passes a blower door test at 2.5ACH50 or less.**

Remember these additional points:

- **Mass Walls:** If you're using mass walls (concrete, brick, etc.), consult the Utah Energy Code for specific R-value requirements as they differ slightly based on insulation placement.
- **Local Requirements:** Always check with your local building department to ensure compliance with any specific amendments or interpretations of the energy code.
- **Energy Efficiency:** Consider exceeding the minimum R-value for improved energy efficiency and comfort, especially in Park City's climate with cold winters and hot summers.



ChatGPT



Searched 4 sites ▾

In Park City, Utah, for residential buildings, the wall R-value requirements are determined by the specific climate zone. Based on the 2015 International Energy Conservation Code (IECC) adopted by Utah, Park City falls into Climate Zone 5B. For wood-framed walls in this climate zone, the required R-value is either R-20 or R-13+5, which means you can either use R-20 continuous insulation or R-13 cavity insulation plus R-5 continuous insulation(utahenergycode).

This requirement ensures that homes are adequately insulated against the colder temperatures typical of Park City's mountainous climate, enhancing energy efficiency and reducing heating costs. For more specific details or updates to these requirements, checking with local building code regulations or consulting the [Park City municipal resources](#) would be beneficial.





For a residential build in Park City, Utah (Climate Zone 5B), the required R-value for exterior wood-framed walls is either:

- R-20 continuous insulation, or
- R-13 cavity insulation with an additional R-5 continuous insulation layer.

These values are based on the 2015 International Energy Conservation Code (IECC) adopted in Utah (utahenergycode)(ICC Digital Codes).

This ensures adequate thermal performance for energy efficiency in the cold climate typical of Park City.



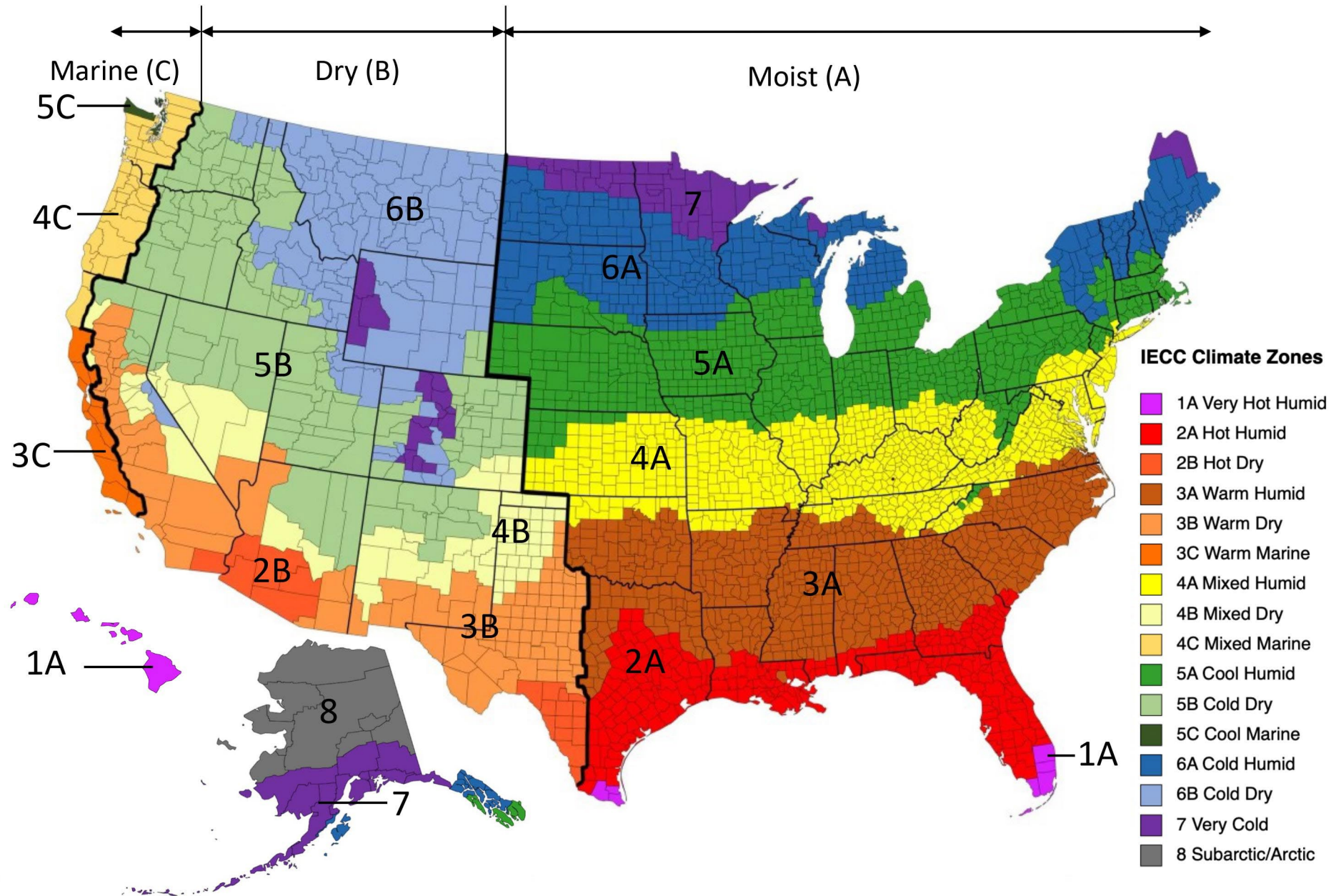


TABLE N1102.1.2 (R402.1.2) INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTRATION U-FACTOR^b	SKYLIGHT^b U-FACTOR	GLAZED FENESTRATION SHGC^{b, e}	CEILING R-VALUE	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE^{i, j}	FLOOR R-VALUE	BASEMENT^c WALL R-VALUE	SLAB^d R-VALUE & DEPTH	CRAWL SPACE^c WALL R-VALUE
1	NR	0.75	0.25	30	13	3/4	13	0	0	0
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0
3	0.35	0.55	0.25	38	20 or 13 + 5 ^h	8/13	19	5/13 ^f	0	5/13
4 except Marine	0.35	0.55	0.40	49	20 or 13 + 5 ^h	8/13	19	10 /13	10, 2 ft	10/13
5 and Marine 4	0.32	0.55	NR	49	20 or 13 + 5 ^h	13/17	30 ^g	15/19	10, 2 ft	15/19
6	0.32	0.55	NR	49	20 + 5 or 13 + 10 ^h	15/20	30 ^g	15/19	10, 4 ft	15/19
7 and 8	0.32	0.55	NR	49	20 + 5 or 13 + 10 ^h	19/21	38 ^g	15/19	10, 4 ft	15/19

WELL THAT WASN'T VERY FUN

- So what is it good for?
Anything?



OSHA EMERGENCY ACTION PLAN

- OSHA requires all employers have an emergency action plan. Many do not.
- The prompt: Create me an OSHA compliant emergency action plan for a concrete company based in Utah.



Emergency Action Plan

Company: [Concrete Company Name]

Location: [Address, City, Utah]

Purpose: This Emergency Action Plan (EAP) outlines the procedures to be followed in the event of an emergency, ensuring the safety and well-being of all employees.

1. Emergency Procedures

- **Fire:**

- Sound the alarm and evacuate the building immediately.
- Gather at the designated assembly area [location].
- Do not re-enter the building until instructed by authorities.
- If safe, use fire extinguishers to control small fires.
- Call 911 immediately.

- **Chemical Spill or Leak:**

- Evacuate the immediate area.
- If safe, contain the spill using appropriate materials.
- Notify the designated safety personnel.
- Follow the instructions provided in the SDS (Safety Data Sheet) for the specific chemical.
- Call 911 if necessary.

DATA COMPARISONS / SUMMARIES

- AI performs especially well when its data source is limited.
- The prompt: Summarize the difference between these two paragraphs.



2021 IBC – 1605.1.1 EXCEPTION 2

- **Where the allowable stress design load combinations of ASCE 7 Section 2.4 are used, flat roof snow loads of 30 pounds per square foot (1.44 kN/m²) and roof live loads of 30 pounds per square foot (1.44 kN/m²) or less need not be combined with seismic load. Where flat roof snow loads exceed 30 pounds per square foot (1.44 kN/m²), 20 percent shall be combined with seismic loads.**

1605.1.1 EXCEPTION 2 - UTAH

- Where the allowable stress design load combinations of ASCE 7 Section 2.4 are used, flat roof snow loads of 30 pounds per square foot (1.44kN/m²) or less and roof live loads of 30 pounds per square foot (1.44kN/m²) or less need not be combined with seismic loads. Where flat roof snow loads exceed 30 pounds per square foot (1.44kN/m²), the snow loads may be reduced in accordance with the following in load combinations including both snow and seismic loads. S as calculated below, shall be combined with seismic loads.
- $S = (0.20 + 0.025 (A-5))\text{Proof}$, where S shall be greater than or equal to 0.20Proof.
- Where:
- S = Weight of snow to be used in combination with seismic loads.
- A = Elevation above sea level at the location of the structure (ft/1,000)
- Proof = Design roof snow loads, P_f or P_s, psf
- For the purpose of this section, snow load shall be assumed uniform on the horizontal projection without including the effects of drift or sliding. The Importance Factor, I, used in calculating P_f may be considered 1.0."

Impact on the Difference between Paragraphs

- Paragraph 1 uses a fixed 20% of the snow load when it exceeds 30 psf in seismic load combinations.
- Paragraph 2, with the provided calculation, allows for a more nuanced reduction of the snow load based on the building's elevation.
 - At lower elevations, the reduction might be significant, leading to less conservative seismic load combinations
 - At higher elevations, the reduction might be minimal, or even no reduction at all if the calculated S is greater than the actual snow load

Practical Implications:

- The calculation in paragraph 2 acknowledges that the risk of heavy snow loads coinciding with a seismic event might be lower at lower elevations
- This could lead to more cost-effective designs in those areas, as the structural system wouldn't need to be as robust to handle the full snow load plus seismic loads simultaneously
- However, in high-elevation areas, the design considerations might remain largely unchanged compared to paragraph 1

CHATPDF

- Upload any PDF
- The AI will read the PDF and then allow you to ask questions about the content it consumed.



ESTIMATING MATH

- Complex estimation problems, especially ones involving conversion have low failure rates with AI.
- The prompt: A road bed is 24 feet wide 4 miles long. It needs 2 inches of rock. How many cubic yards of rock will that be?





You'll need approximately 3129 cubic yards of rock.

To calculate the volume of rock needed to cover a road bed, we need to follow these steps:

1. Convert all measurements to the same unit.
2. Calculate the volume in cubic feet.
3. Convert the volume from cubic feet to cubic yards, as there are 27 cubic feet in a cubic yard.

Step 1: Conversion to feet

- Width of road bed: 24 feet (already in feet)
- Length of road bed: 4 miles $\rightarrow 4 \times 5280$ feet/mile = 21,120 feet
- Thickness of rock layer: 2 inches $\rightarrow \frac{2}{12}$ feet = $\frac{1}{6}$ feet

Step 2: Calculate the volume in cubic feet

Volume = Width \times Length \times Thickness
Volume = 24 feet \times 21,120 feet \times $\frac{1}{6}$ feet

Volume = $24 \times 21,120 \times \frac{1}{6}$ Volume = 84,480 cubic feet

Step 3: Convert cubic feet to cubic yards

Cubic yards = $\frac{\text{Cubic feet}}{27}$ Cubic yards = $\frac{84,480}{27}$ Cubic yards = 3,128.89

So, you will need approximately 3,128.89 cubic yards of rock.

TAKEAWAYS

- None of them are funny.
- Gemini is easily the most useful for inquiries about building codes.
- The paid version of ChatGPT was not always inherently better than free.
- Nobody should pay money for Grok.



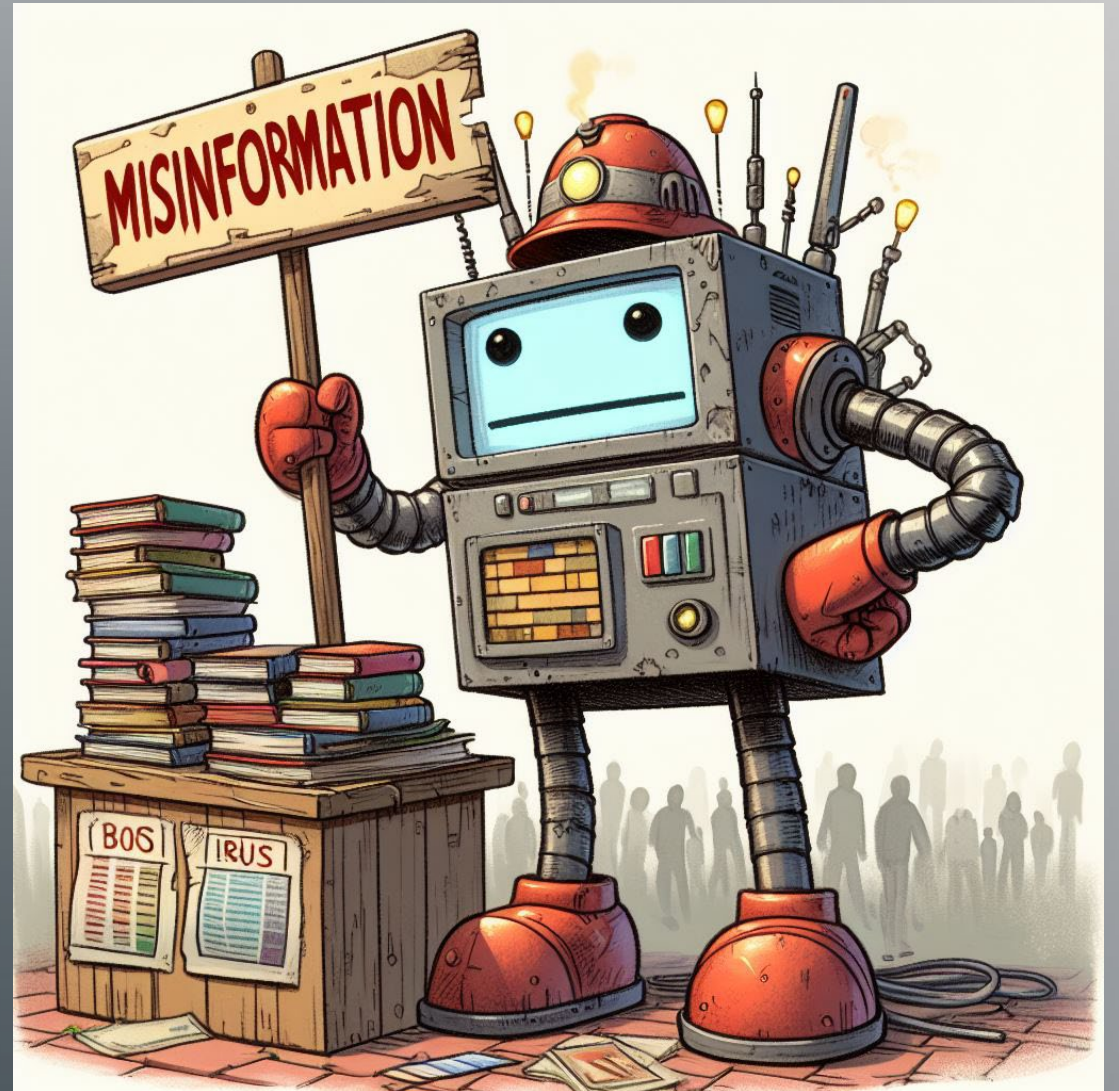
DANGERS

- How you should or shouldn't use AI is a personal decision, but some potential activities that should give you pause are:
 - Blindly taking building code advice from it. Instead use it as a resource to help track down requisite codes.
 - Using it to write contracts or do legal work for you.
 - Disclosing sensitive information to it.



MISINFORMATION

- Many AIs are trained using data obtained from the open internet.
- This will surprise you, but sometimes the internet has information that is inaccurate and untrue.
- If an AI encounters bad info frequently enough, eventually it may come to believe it's true and represent it as such.



DEEPPFAKES

- Many tools are becoming increasingly more talented at emulating people's voices and images.
- Most social media has banned the videos, but as time goes on, they will become more difficult to spot.

