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AI & Automation

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- Research: Deception Detection, Data Breaches, Information Security, Password Cross-pollination
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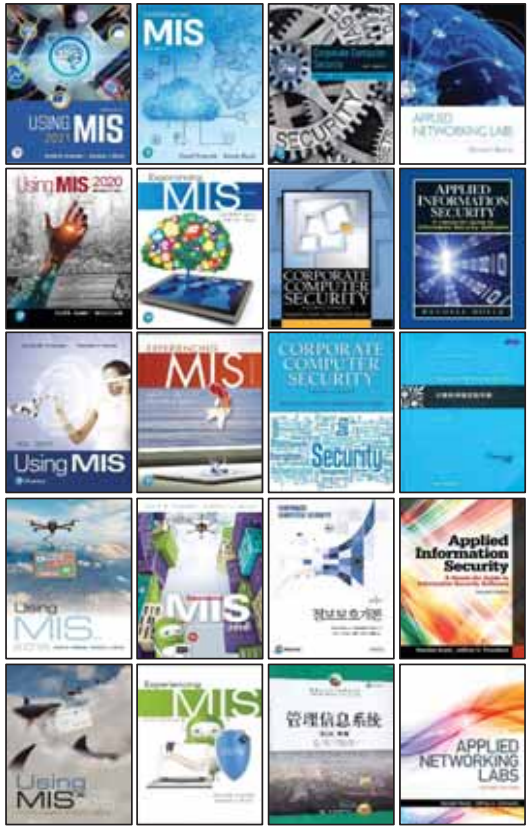



RISHI SUNAK X ELON MUSK
sky news
COULD AI MEAN 'NO JOB IS NEEDED'?

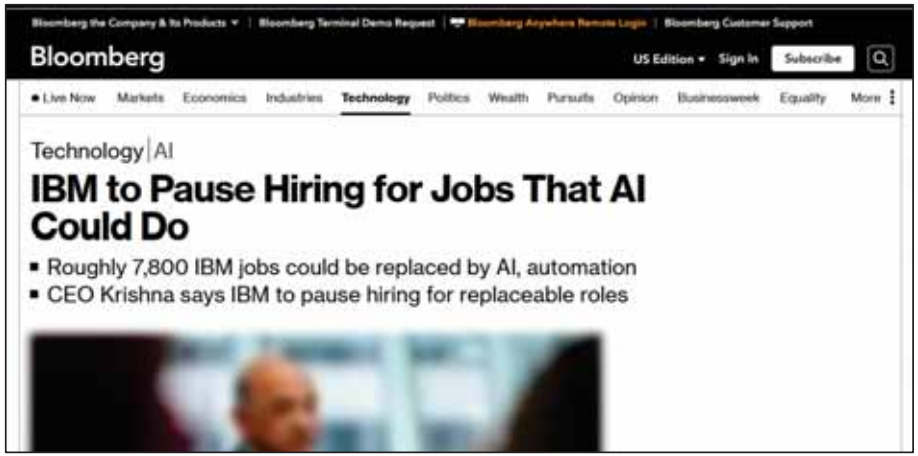
How will AI and automation affect businesses?

- **Question:** How will AI and automation affect businesses?
- **Answer:** AI and automation are already impacting businesses across industries and are expected to continue to do so in the coming years. Here are some potential effects:

1. **Increased efficiency and productivity**: AI and automation can help businesses to streamline their operations, reduce human error, and increase productivity. For example, automated processes can help businesses to reduce the time and cost associated with manual tasks like data entry, processing invoices, and customer support.
2. **Cost savings**: Automation can help to reduce labor costs associated with repetitive or manual tasks. This can free up resources that can be allocated to other areas of the business, such as research and development or marketing.
3. **Improved customer experience**: AI-powered tools like chatbots and personalization algorithms can help businesses to provide more personalized and responsive customer service, leading to increased customer satisfaction and loyalty.
4. **Displacement of human jobs**: As AI and automation continue to improve, some jobs may be automated, which could lead to job losses or displacement for some workers. However, it's important to note that automation can also create new jobs, particularly in areas related to AI and robotics.
5. **Increased competition**: As AI and automation become more prevalent, businesses that do not adopt these technologies may find it difficult to compete with those that do.

https://www.foxbusiness.com/technology/two-thirds-us-jobs-exposed-ai-driven-automation-goldman-sachs

https://www.forbes.com/sites/chriswestfall/2023/01/26/buzzfeed-to-use-chatgpts-ai-for-content-creation-stock-up-200/?sh=161604597eae



https://www.bloomberg.com/news/articles/2023-05-01/ibm-to-pause-hiring-for-back-office-jobs-that-ai-could-kill#xj4y7vzkg

https://www.foxbusiness.com/retail/walmart-expects-65-stores-serviced-automation-2026

Hey, ChatGPT, write a Taylor Swift song...

Step 1: Ask ChatGPT to write a Taylor Swift **song**

Step 2: Ask ChatGPT to compose **music** for the song (all instruments)

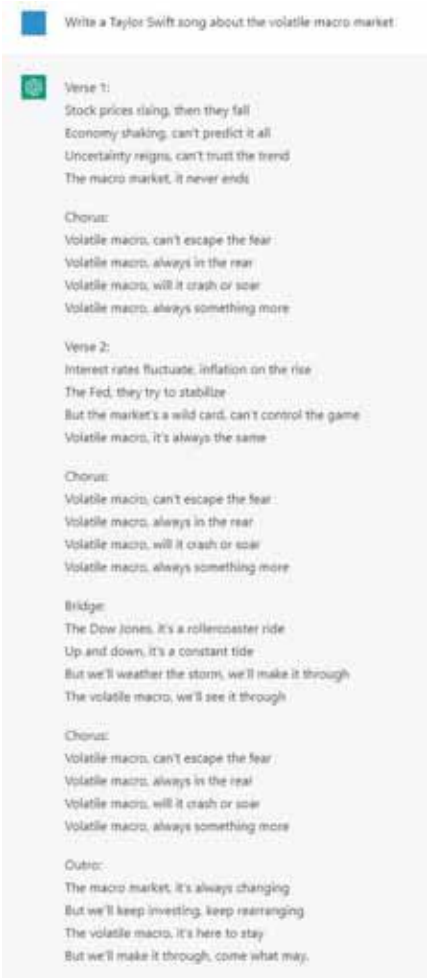
Step 3: Ask ChatGPT to compose **vocals** for the music

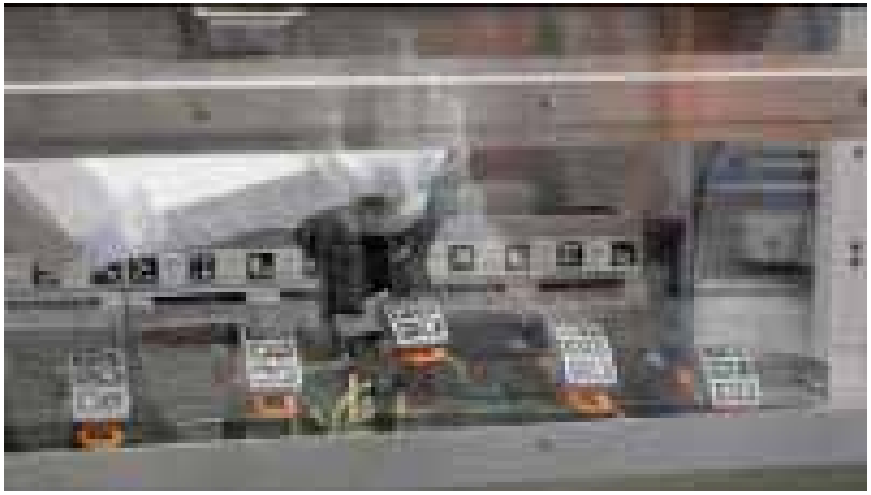
Step 4: Ask ChatGPT to create **deepfake** body overlays

Step 5: Send Taylor Swift to burger flipping school

Step 6: Tell Taylor Swift she has been replaced by **Flippy the burger making robot** (a real robot that replaces 3 workers)

Step 7: Taylor Swift is on UBI





100 STARTUPS USING ARTIFICIAL INTELLIGENCE TO TRANSFORM INDUSTRIES

CONVERSATIONAL AI/ BOTS

MindMeld · semantic machines · Maluuba · Mobvoi 出门问问 · KITT.AI · snips · clara · AUTOMAT · X.

VISION

clarifai · Chronocam · Orbital Insight · pilot.ai · Captricity · GROKSTYLE

AUTO

nuTonomy · drive.ai · AIMOTIVE · nauto · nexar · ZOOX

ROBOTICS

UBTECH · anki · Rokid · dispatch

CYBERSECURITY

CYLANCE · sift science · sparkcognition · deepinstinct · Shift Technology · DARKTRACE

BUSINESS INTELLIGENCE & ANALYTICS

DataRobot · TRIFACTA · rapidminer · tamr · SIGOPT · Paxata · context relevant · Dataminr · CrowdFlower · logz.io

AD, SALES, CRM

TalkIQ · deep gram · [PERSADO] · Appier · CHORUS · INSIDE SALES .COM · drawbridge · DigitalGenius · RESCI

CORE AI

affectiva · PETUUM · ALGORITHMIA · $H_2O.ai$ · loop ai Labs COGNITIVE COMPUTING · CognitiveScale · sentient · Voyager Labs · Numenta · SCALED INFERENCE · skymind · vicarious · Digital Reasoning · bonsai · AYASDI

HEALTHCARE

Freenome · CLOUD MEDX · zebra · enlitic · twoXAR · iCarbonX · Atomwise · deep genomics · BabyLon · BenevolentAI · Lunit

THE INNOVATION SUMMIT
CBINSIGHTS

TEXT ANALYSIS/ GENERATION

textio · fido.ai · cortical.io · NarrativeScience

IOT/IIOT

nanit · KONUX · VERDIGRIS · SIGHT MACHINE

COMMERCE

bloomreach · mode.ai

FINTECH & INSURANCE

CAPE ANALYTICS · KENSHO · NUMERAI · alphasense · Kasisto

OTHER

GIGSTER · prospera · Citrine · BLUE RIVER TECHNOLOGY · ROSS · zymergen · Descartes Labs · gradescope · talla

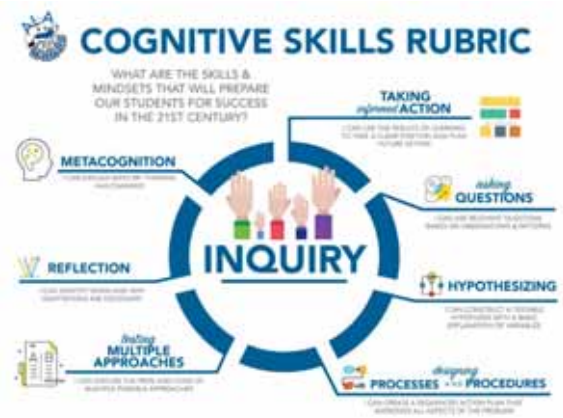
Humans are Expensive

Benefits of Automated Labor	Benefits of Human Labor
1. No healthcare expenses.	1. Unique problem solving
2. No time off, breaks, sick days, or vacations.	2. Create new products
3. No accidents, injuries, workman's compensation claims.	3. Adaptable to rapidly changing environment
4. No unions, arguments, complaints, bad attitudes, layoffs, severance packages.	4. Integrative systems thinking
5. No smoke breaks, drinking on the job, sexual harassment, lawsuits,	5. Question poorly made decisions
6. No minimum wage, raises, or paychecks.	6. Prior experience to predict future events
7. Work 24 hours a day, 365 days a year.	7. Ethical decision making (hopefully)
8. More safe, accurate, and consistent work than humans.	8. Interact well with humans (i.e. sales)

What should I be good at?

Education must emphasize the things humans are good at:

1. Novel problem solving
2. Systemic thinking
3. Experimentation
4. Collaboration



Critical Skill	Description
Abstract reasoning	the ability to make and manipulate models
Systems thinking	the ability to model the components of the system to connect the inputs and outputs among those components into a sensible whole that reflects the structure and dynamics of the phenomenon observed
Collaboration	the activity of two or more people working together to achieve a common goal, result, or work product
Ability to experiment	making a reasoned analysis of an opportunity, envisioning potential solutions, evaluating those possibilities, and developing the most promising ones, consistent with the resources you have
Creativity	the use of the imagination or original ideas

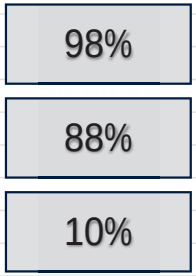
Impact on Jobs in Utah

Top 200 Popular Jobs in Utah

What professions have the highest employment in Utah? In this article we show the top 200 jobs that employ the highest number of people in Utah. We note that the total employment in Utah is 1,554,670. The most popular job is the *general and operations manager* profession, which employs 60,180 people (3.87 percent of the total employment in Utah). The second most common job is the *customer service representative* profession which employs 55,070 people (3.54 percent of the total employment). The employment and salary information in Utah is computed from data published by BLS in April 2022 [1].

Table 1. 200 most popular jobs in Utah (2021 survey)

Rank	Job Description	# of Empl.	% of Empl.	Average Salary
1	All Occupations	1,554,670	100.00%	$38,860
2	General and Operations Managers	60,180	3.87%	$64,090
3	Customer Service Representatives	55,070	3.54%	$36,590
4	Fast Food and Counter Workers	45,490	2.93%	$23,140
5	Retail Salespersons	39,750	2.56%	$28,580
6	Cashiers	31,260	2.01%	$23,870
7	Office Clerks, General	26,450	1.70%	$36,590
8	Stockers and Order Fillers	25,430	1.64%	$30,000
9	Registered Nurses	23,760	1.53%	$75,000
10	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	22,740	1.46%	$28,440
11	Laborers and Freight, Stock, and Material Movers	22,100	1.42%	$30,660
12	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	20,380	1.31%	$37,070



https://www.usawage.com/popular/jobs-state-utah.php

TOP-PAID JOBS WITH THE HIGHEST AUTOMATION RISK

Jobs with a median salary of over $75,000 and an automation risk over 50%, ranked by automation risk (highest first).

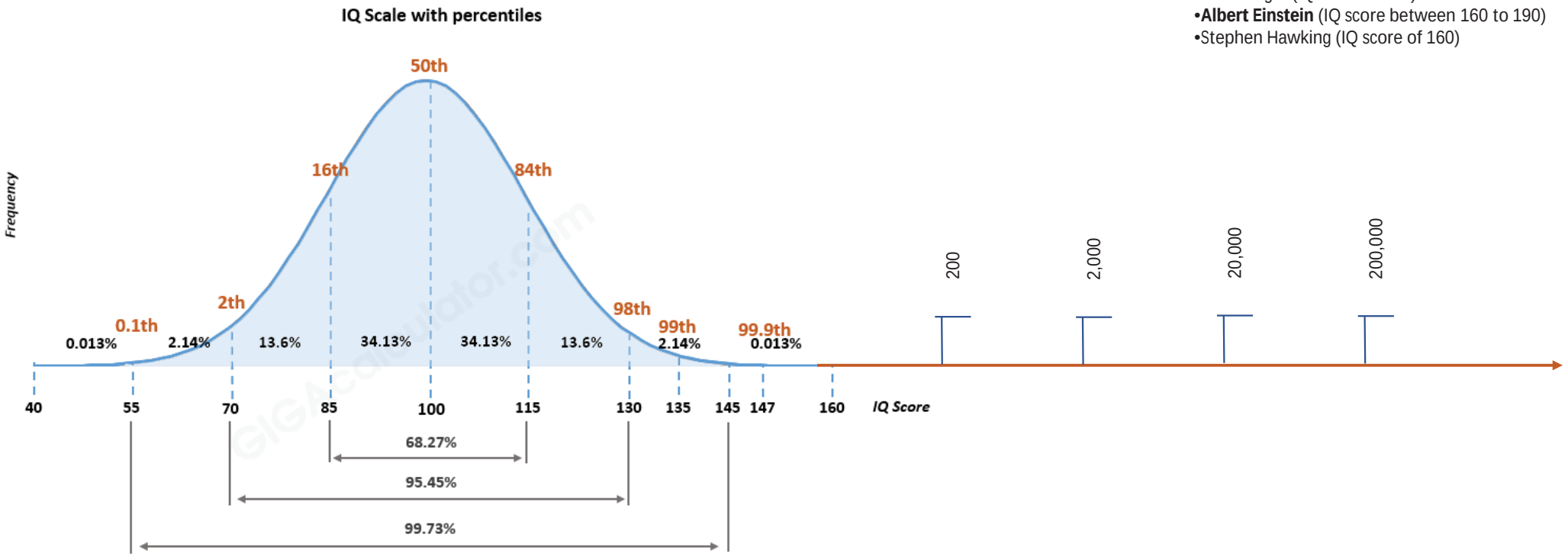
Currently viewing automation risk data we have generated. View this table using data we have collected from our users.

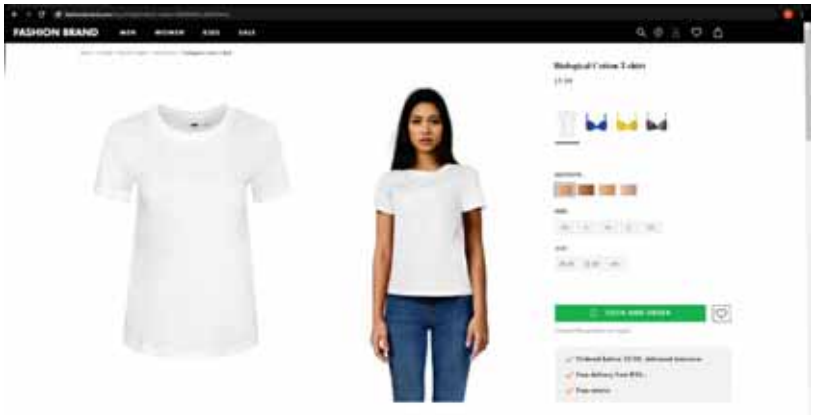
Occupation	Median wage (US)	Projected growth (by 2031)	Risk level	Risk level (voted)	Job score
1. Credit Analysts	78,850	-2.5%	100%	69%	3.0/10
2. Chemical Plant and System Operators	82,670	-1.1%	91%	56%	3.1/10
3. Budget Analysts	82,260	2.8%	89%	69%	3.6/10
4. Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	79,570	1.8%	88%	86%	3.0/10
5. Subway and Streetcar Operators	88,260	3.5%	83%	78%	3.5/10

https://willrobotstakemyjob.com/rankings/top-paid-high-risk-jobs

What happens in 2045?

- Ainan Celeste Cawley (IQ score of 263)
- William James Sidis (IQ score of 250-300)
- Terence Tao (IQ score between 225 and 230)
- Marilyn Vos Savant (IQ score of 228)
- Christopher Hirata (IQ score of 225)
- Kim Ung-Yong (IQ score of 210)
- Edith Stern (IQ score over 200)
- Christopher Langan (IQ score between 190 to 210)
- Garry Kasparov (IQ score of 194)
- Philip Emeagwali (IQ score of 190)
- Judit Polgar (IQ score of 170)
- **Albert Einstein** (IQ score between 160 to 190)
- Stephen Hawking (IQ score of 160)





https://lalaland.ai/

https://restofworld.org/2023/ai-voice-acting/

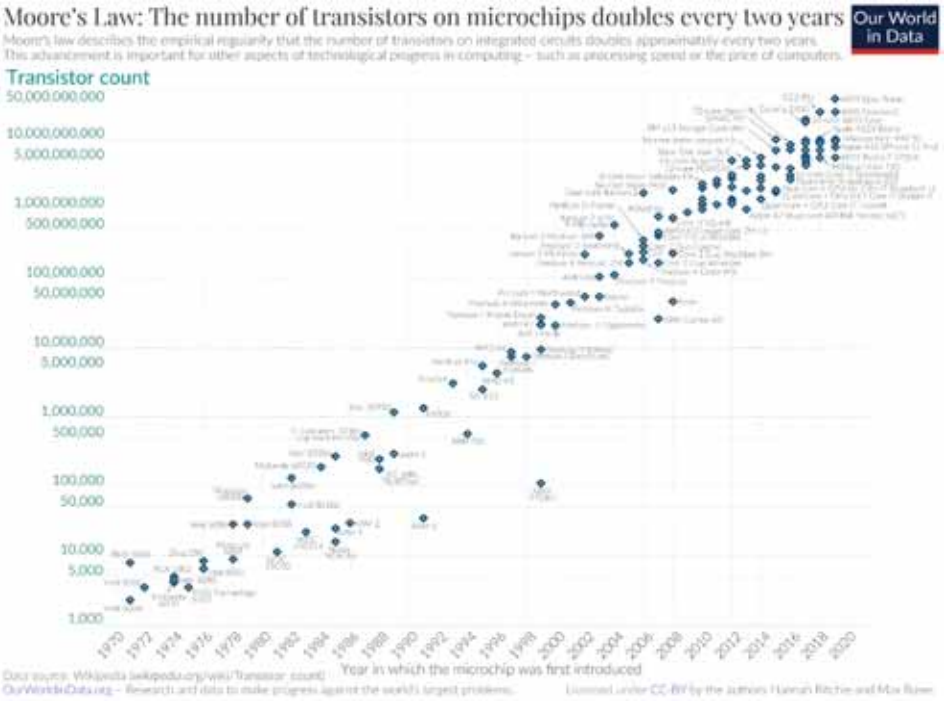
https://www.worldoil.com/news/2023/5/4/otc2023-artificial-intelligence-automation-bring-safety-efficiency-to-offshore-industry/

https://www.lifewire.com/your-next-favorite-actor-may-be-powered-by-artificial-intelligence-heres-why-6747317


ROBOT
WORKER
Walmart

Exponential Growth is Hard to Understand

- Imagine you could run twice as fast every 18 months.
  - Today: 8 mph
  - 1.5 years: 16 mph
  - 3.0 years: 32 mph
  - 4.5 years: 64 mph
  - 6.0 years: 128 mph
  - 7.5 years: 256 mph
  - 9.0 years: 512 mph
  - 10.5 years: 1,024 mpl



ELLIOT F. EISENBERG, PH.D.

President and Chief Economist,
Graphs and Laughs

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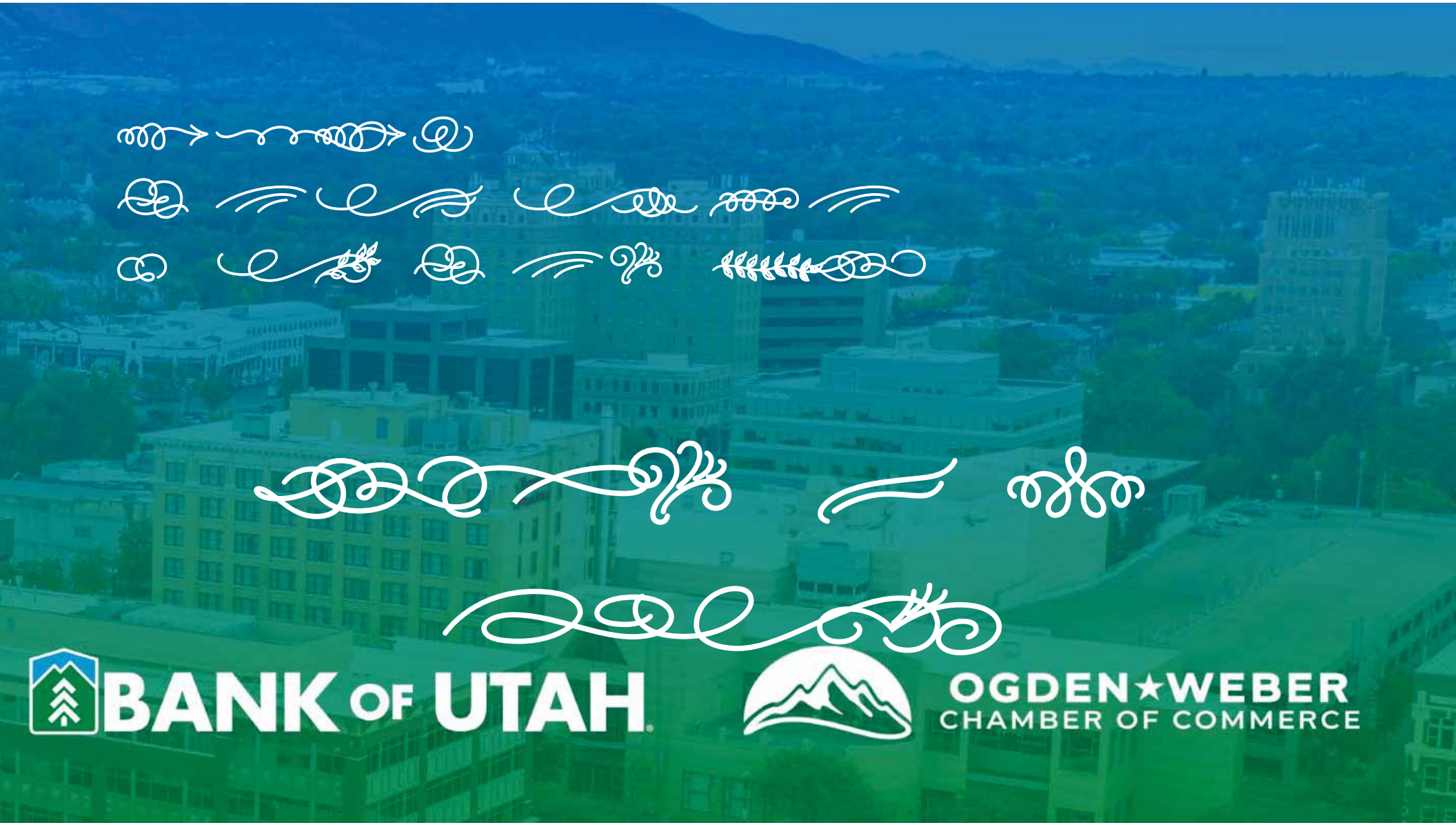
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