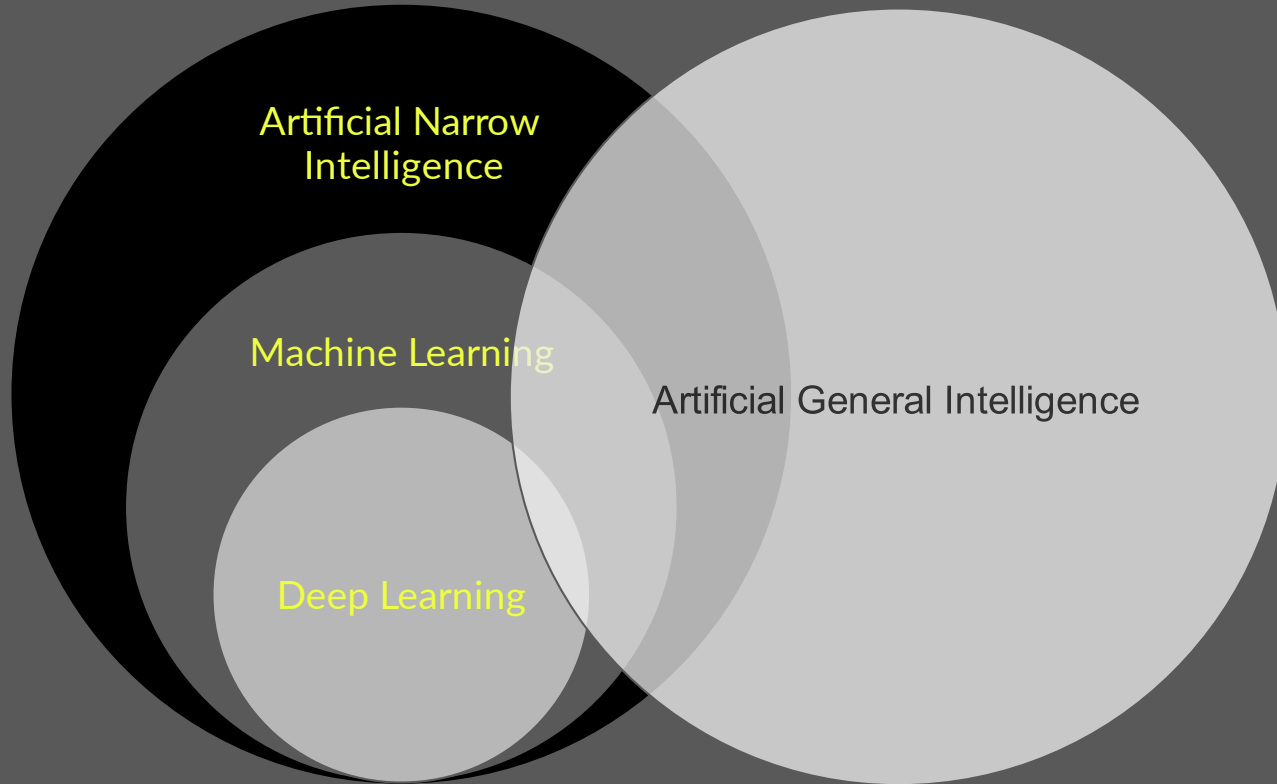


HR and AI

Dr. Sharad Jones
sharad.jones@usu.edu

What is AI?



Why did this “AI” moment happen now?

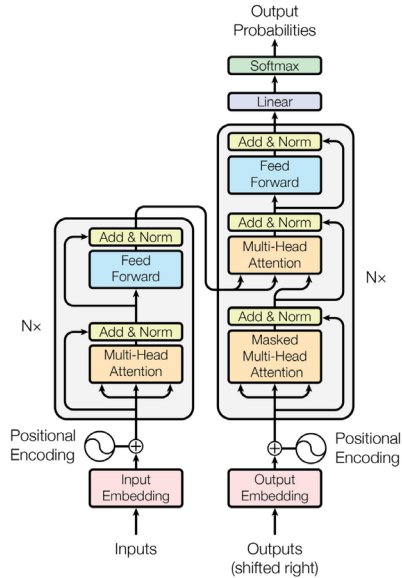
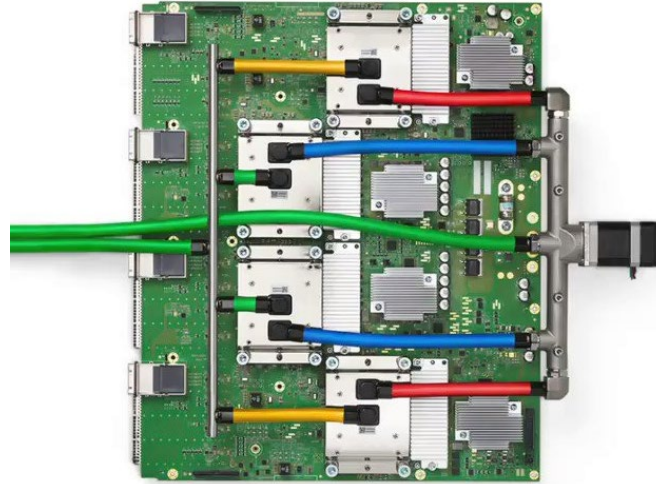
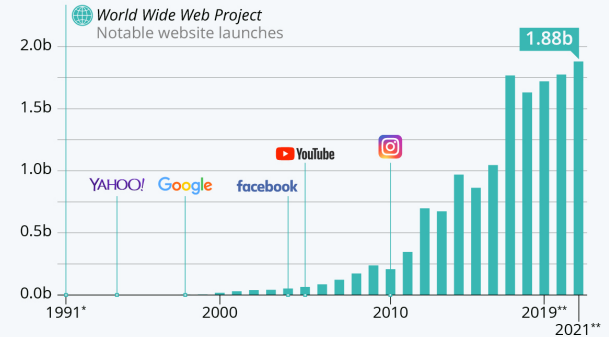


Figure 1: The Transformer - model architecture.



How Many Websites Are There?

Number of websites online from 1991 to 2021



* As of August 1, 1991.

** Latest available data for 2019: October 28, for 2020: June 2, for 2021: August 6.

Source: Internet Live Stats



Algorithms

Hardware

Datasets

What was the first language?



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GPT-2 (2019) ▾

What was the first language?



The language of the world was created by a group of people who were looking for something to do and who wanted to communicate with each other. They wanted to communicate with each other, and each other to themselves. They had a long history of communicating with each other, and they thought they could communicate with each other.

ChatGPT

Trained with two goals:

1. Predict a word that likely follows existing words in the prompt.
 - Note: this includes as much chat history as well as uploaded information that can fit into the context window.
 - E.g. “[Help me outline my data science course for next semester.](#)” What could come next?
 - Trained on as much text as possible (i.e. the internet, including all of the biases that exist)
2. Respond in a way that humans prefer.
 - This involved contracting with likely thousands of human annotators, tasked with looking at responses to prompts and selecting which they’d prefer.
 - This reinforces ChatGPT to respond in ways we’d like, which is why you can often correct it (even if it’s right).


What was the first language?



Determining the "first" language is challenging because language likely evolved gradually over a long period of time rather than being invented at a specific moment. However, the earliest known written language is Sumerian cuneiform, developed by the Sumerians of ancient Mesopotamia around 3200-3100 BCE. This makes Sumerian one of the oldest known written languages. However, spoken languages likely existed long before written records, and the specific origins of spoken languages are difficult to pinpoint due to the lack of direct evidence from ancient times.

GPT-4T (2023) ▾


What was the first language?

 Identifying the "first language" ever spoken is incredibly challenging because languages evolve, diverge, and sometimes disappear over thousands of years, leaving little trace. There's no concrete evidence of what the first language was, as spoken languages existed long before writing was invented to record them.

Linguists have hypothesized about a common ancestor for many languages called Proto-Indo-European (PIE), which is believed to have been spoken by a prehistoric people around 6,000 to 8,000 years ago. PIE is not the first language ever spoken, but it's one of the earliest languages we have attempted to reconstruct. It's the theorized ancestor to many modern languages in Europe and

GPT-4.5 (2025) ▾

What was the first language?

 We don't know exactly what the first language was, and scientists believe we'll probably never know for sure because spoken languages appeared long before written records existed.

Here's what we do know:

- **No single "first language":** Languages likely developed gradually in different groups of humans around the same time, tens or even hundreds of thousands of years ago.
- **Origin in Africa:** Most scientists agree that spoken language probably first emerged among humans in Africa, perhaps over 100,000 years ago.
- **Proto-languages:** Rather than a single language, humans

Impact on Labor Markets

Conversations Private

User: My game keeps crashing as I only have 8GB of RAM...

Assistant: I can help you optimize your game settings! Let's lower th...

User: Could you look over my blog post about the Golden Gate Bridge?

Assistant: I'd be happy to review your blog post about the Golden...

User: Can you make sure this blogpost follows Chicago style?

Assistant: I'll help align your blogpost with Chicago style guide...

Tasks Visible to analysts

O*NET TASK

Modify software to improve performance and adapt to new hardware

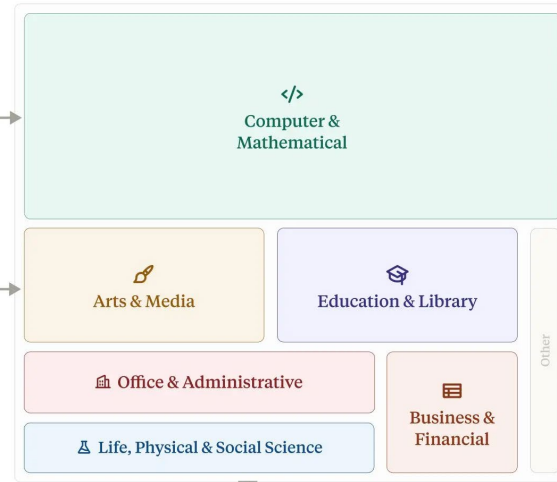
O*NET TASK

Review and rewrite content for publication approval

O*NET TASK

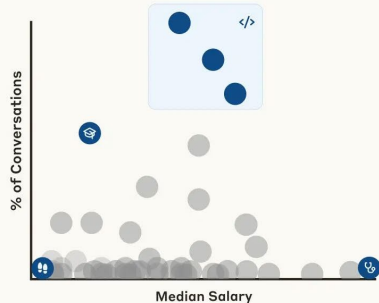
Standardize materials from other writers and staff

Occupations Visible to analysts

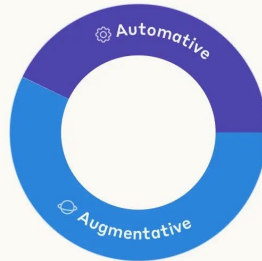


Tasks & occupations derived from o-net

Wage vs. AI Usage



Augmentative vs. Automative Tasks



Skills Breakdown



APPLICATIONS

</> Computer & Mathematical 37.2%

Top Titles

- 📁 Computer Programmers 6.1%
- 📁 Software Developers, Systems Software 5.3%
- 📁 Software Developers, Applications 3.4%

Top Tasks

- 🔗 Develop and maintain software applications and websites 16.8%
- 🔗 Program and debug computer systems and machinery 6.9%
- 🔗 Design & maintain database systems for data management and analysis 2.3%

🎨 Arts & Media 10.3%

Top Titles

- 📁 Technical Writers 1.8%
- 📁 Copy Writers 1.6%
- 📁 Editors 1.3%

Top Tasks

- 🔗 Produce and perform in film, TV, theater, and music 1.8%
- 🔗 Manage organizational public relations & strategic comms 1.3%
- 🔗 Develop & execute multi-industry marketing & promotional strategies 1.2%

📚 Education & Library 9.3%

Top Titles

- 📁 Tutors 1.6%
- 📁 Archivists 1.5%
- 📁 Instructional Designers 0.8%

Top Tasks

- 🔗 Design and develop comprehensive educational curricula and materials 1.9%
- 🔗 Teach and instruct diverse subjects across educational settings 1.7%
- 🔗 Manage book and document publishing processes 1.4%

🏢 Office & Administrative 7.9%

Top Titles

- 📁 Bioinformatics Technicians 2.9%
- 📁 Statistical Assistants 0.4%
- 📁 Word Processors 0.4%

Top Tasks

- 🔗 Perform routine IT system administration and maintenance 1.8%
- 🔗 Provide comprehensive customer service and support 0.7%
- 🔗 Record, analyze, and report operational and research data 0.6%

🔬 Life, Physical & Social Science 6.4%

Top Titles

- 📁 Clinical Psychologists 0.5%
- 📁 Historians 0.4%
- 📁 Anthropologists 0.4%

Top Tasks

- 🔗 Conduct academic research and disseminate findings 1.2%
- 🔗 Record, analyze, and report operational and research data 0.5%
- 🔗 Conduct chemical analyses and experiments on various substances 0.3%

💼 Business & Financial 5.9%

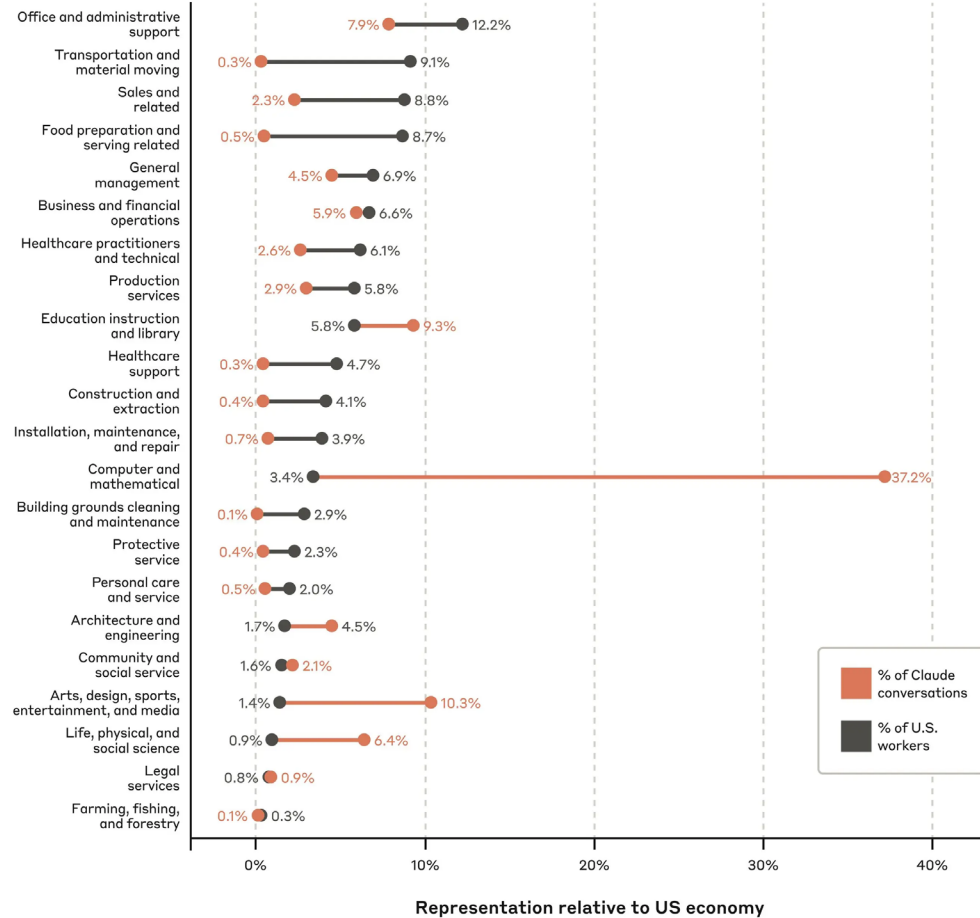
Top Titles

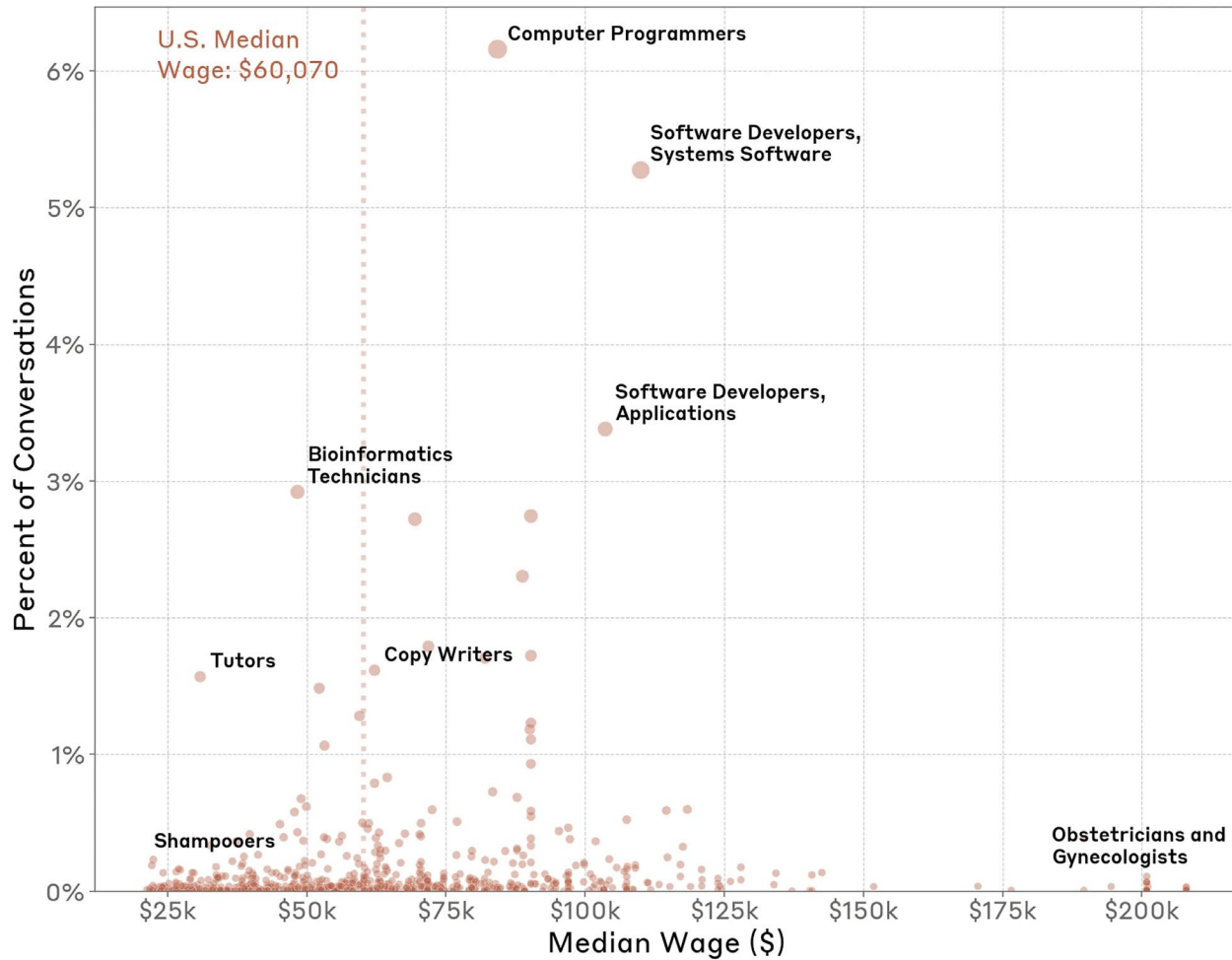
- 📁 Security Management Specialists 0.5%
- 📁 Credit Counselors 0.4%
- 📁 Financial Analysts 0.4%

Top Tasks

- 🔗 Analyze financial data & develop investment & budgeting strategies 0.8%
- 🔗 Provide personal financial advice and education 0.8%
- 🔗 Record, analyze, and report operational and research data 0.4%

AI usage by job type





BLOOM'S TAXONOMY





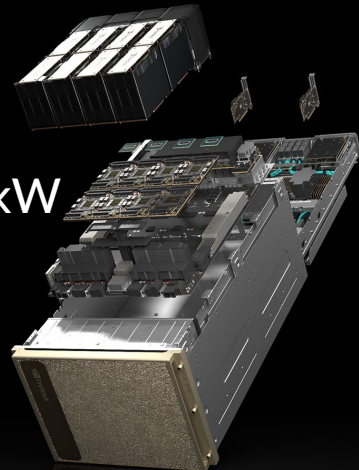
AI vs IA

“AI succeeds as a tool, fails as a crutch.” –Dr. Carly Fox

Artificial Intelligence: Machines replicating human intelligence

Intelligence Augmentation: Enhancing human intelligence via machines

10.2 kW



12 W



Human problems require human solutions. Data Science, Machine Learning, and Artificial Intelligence are tools designed to support, not replace, human decision-making in human resources.

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