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NON-GENERATIVE AI AND THE USER EXPERIENCE: MY PERSONAL FIELD NOTES

About Me

- Founder, User Experience Research, LLC
- <https://www.linkedin.com/in/josephinegiaimo>
- Data scientist and user experience researcher/leader
- Worker



What is the Difference? Does it Matter?

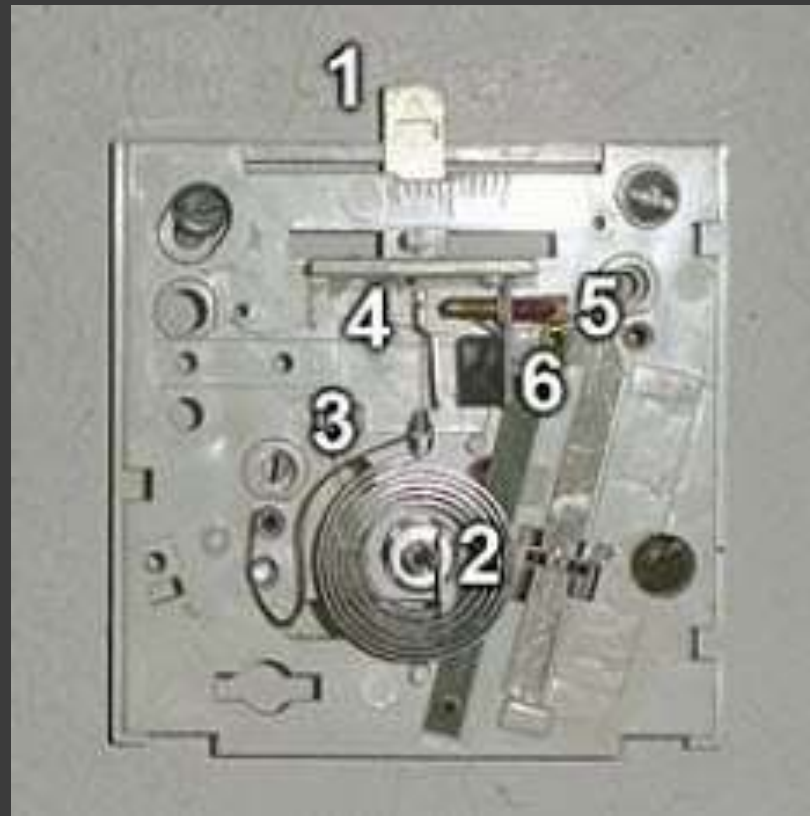
- NVIDIA: “Generative AI models use neural networks to identify the patterns and structures within existing data to generate *new and original content.*”
[italics mine]
- Non-supervised or self-supervised learning (no feedback).
- Non-generative AI includes:
 - Neural networks that are supervised;
 - Expert systems;
 - Robotic Process Automation;
 - Supervised data modeling;
 - Machine learning that is supervised.

Do You Care What's Inside?



How Does Your Thermostat Work?

- Do you care what's inside?
- Or not?



Do You Care Now?



How About Now?

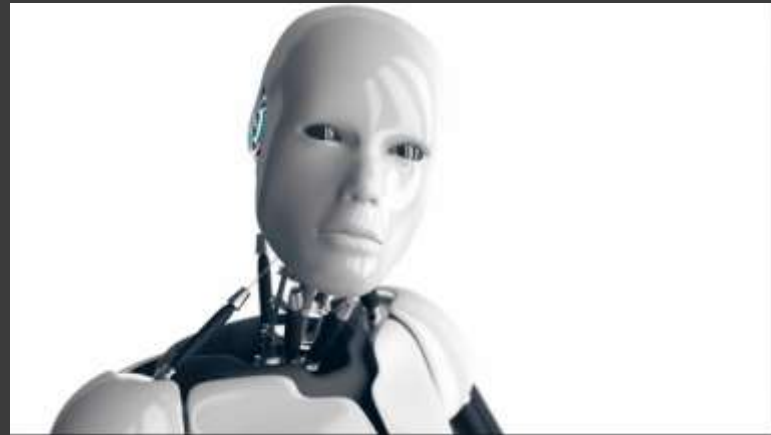


Part 1

**How I proposed a framework
and metric for evaluating the
performance of AI in predicting
project profits**

Building My Own Neural Network Model without Coding

- BrainMaker (CS) software
- Uploaded the data via an Excel spreadsheet
- Trained the network on a variety of learning parameters overnight(s)
- Used Root Mean Square (RMS) as the basis of comparison with regression analysis



How Backpropagation Works

- ⦿ (Source: builtin.com) “Backpropagation is a process involved in training a neural network. It takes the error rate of a forward propagation and feeds this loss backward through the neural network layers to fine-tune the weights.”
- ⦿ That’s for the people who care.

Part 2

**How I helped AT&T improve
several key metrics by using UX
design and research to
implement an expert system**

Human-factors engineer for expert telecom system pilot

- Business Challenge
- Solution
 - Co-authored system engineering doc
 - Conducted cognitive walk-throughs
 - Conducted ethnographic research
 - Interviewed SMEs
 - Conducted pilot training
 - Selected typical scenarios
- Takeaway: Knowledge of expert systems helpful



Part 3

How I used my UX-related skills to support the implementation of Robotic Process Automation projects

Researcher and SEO Article Writer for RPA Services

- ⦿ Business challenge
- ⦿ Solution
 - Learned about client's services
 - Researched success stories
 - Wrote a dozen SEO articles
- ⦿ Takeaway:
Knowledge of AI, ML helpful



RPA UiPath Example

Transcribing PDF data into SAP from an inbound Outlook email from a customer/vendor with UiPath RPA

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

1. RPA opens Outlook
2. Opens PDF invoices from an Outlook email
3. Extract the data from the PDF
4. It then validates to make sure the customer is in SAP
5. Copies the relevant info into SAP from the PDF

<https://www.youtube.com/watch?v=bz4KiMctmkE&t=24s>

Key RPA actions used:

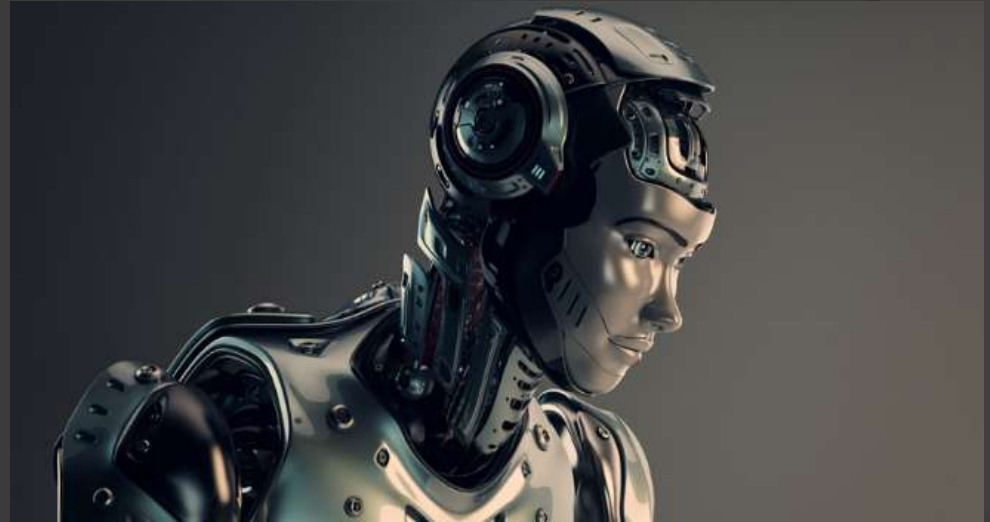
1. Logging into applications
2. Navigating screens and toggling between applications
3. Data conversion into correct format for SAP
4. Extract data from excel into SAP

Part 4

**How my ethnographic research
laid the groundwork for future AI
data modeling**

Senior UX Researcher for Healthcare IT

- ◉ Business Challenge
- ◉ Solution
 - Conducted “day in the life” research
 - Client in exploratory stage
 - Eventually, to implement as AI-assisted software
- ◉ Takeaway: Knowledge of expert systems and ML helpful

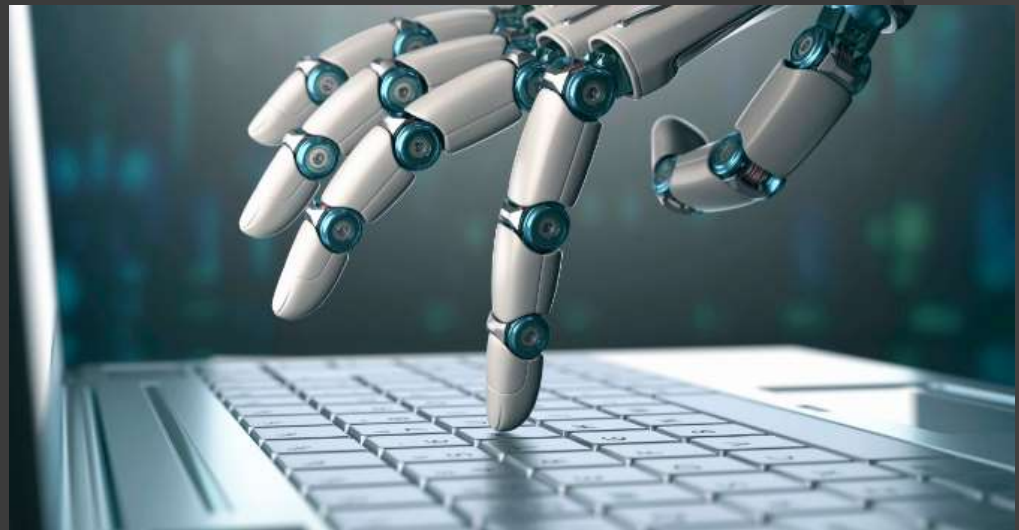


Part 5

How I used my background in machine learning and UX to provide user-centered documentation of an exciting, new healthcare IT product

User-centered Technical Content for Healthcare Product

- Business challenge
- Solution
 - “Reverse engineered” feature validation scenarios
 - Wrote or edited 100 user-centered articles
- Takeaway: Knowledge of ML was useful
 - No one else on the writing team had ML experience!
 - No one else on the product team could write user-centered documentation!



Identifying Data Errors and Trends

● WEBINAR



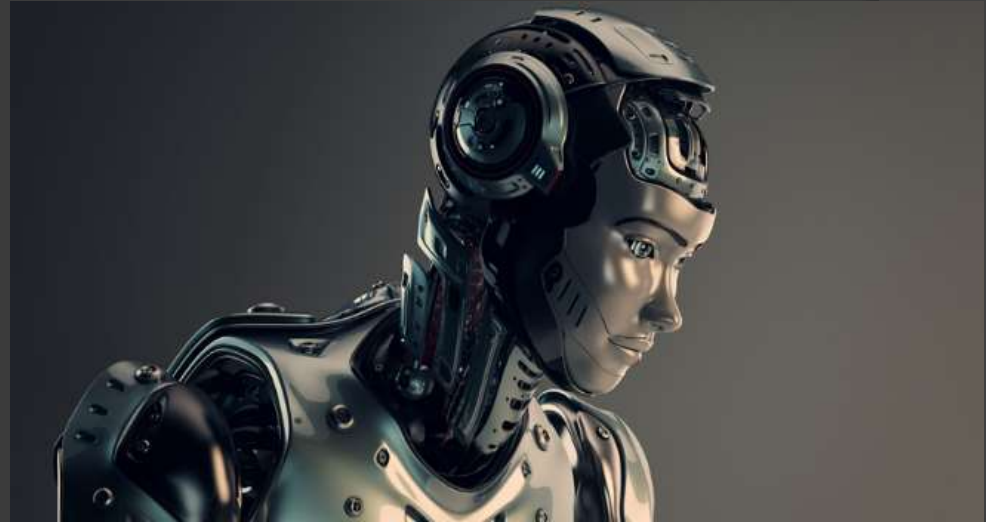
Solving the Impossible for COVID-19 with Medidata Technology

"We understood and knew that this data analytics solution, Detect, could enable us with identifying the various or potential data errors and trends within the data. This would then allow us to improve data integrity and reduce the trial risk."

—
Laurie Callen
Senior Director of Clinical Data Management
[Moderna](#)

Centralized Statistical Analytics (CSA)

- ⦿ Part of Detect™
- ⦿ Lets clinicians run big data analytics
- ⦿ Proprietary machine learning algorithm
- ⦿ Clinicians can adjust learning parameters, but probably won't
- ⦿ Processes up to 1M data points in <1hr
- ⦿ **Reduces risk**



Some Learning Parameters That Are **Not** the Main Interest of Target Users

- Cluster distance threshold
- Cluster configuration setting
- Cluster outlier threshold
- One- and two-dimensional error threshold settings
- One- and two-dimensional error threshold setting in clusters
- Distance threshold for variable clustering, & for tables
- Quantile for patient similarity detection

Takeaways

- ⦿ “Calculus-free”, user-centered design, research, and related services for AI implementations
- ⦿ AI has been around for decades, including non-generative AI
- ⦿ **Generative AI vs. non-generative AI— is there supervised learning, or not?**
- ⦿ Recommendation: Build your own no-code AI implementation!
 - You will learn a lot.
 - It’s not that hard.

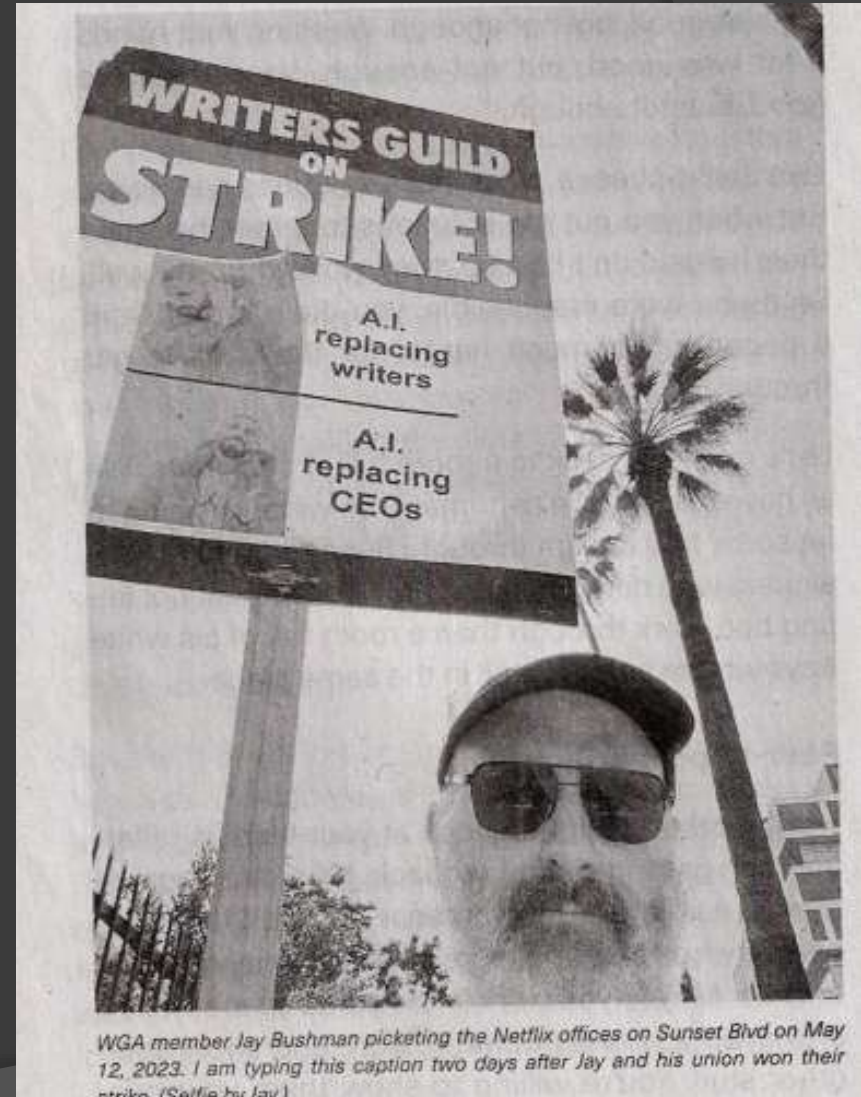
Some No-Code AI Options

- ◉ Amazon SageMaker
- ◉ Akkio
- ◉ Apple CreateML
- ◉ DataRobot
- ◉ Google AutoML
- ◉ Google TeachableMachine
- ◉ Microsoft Lobe
- ◉ Nononets
- ◉ ObviouslyAI
- ◉ PyCaret

My Fellow Techies

- ⦿ “You have a right to unionize.
- ⦿ You have a duty to unionize.
- ⦿ You have more in common with other workers than with your boss.”
- ⦿ [CODE-CWA.ORG](https://code-cwa.org)

Thank you, Mike Monteiro!





Q&A