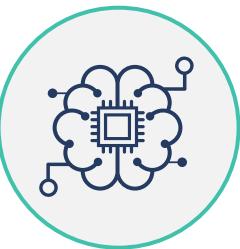




UX Roles in AI

Todd Eischeid, Principle UX Researcher

November 12, 2020



Introduction

User experience in Artificial Intelligence (AI) has many facets

Here I am mainly discussing Artificial Intelligence as it relates to user experience research and testing, and ways in which UX can contribute to AI related functionality.





Defining AI for UX





Defining AI for UX

Healthcare has different requirements than for typical consumer applications

users are experts in their fields

domain is very complex

efficiency
privacy
safety

Be cautious about applying guidance that is geared more toward general consumer applications, like ecommerce



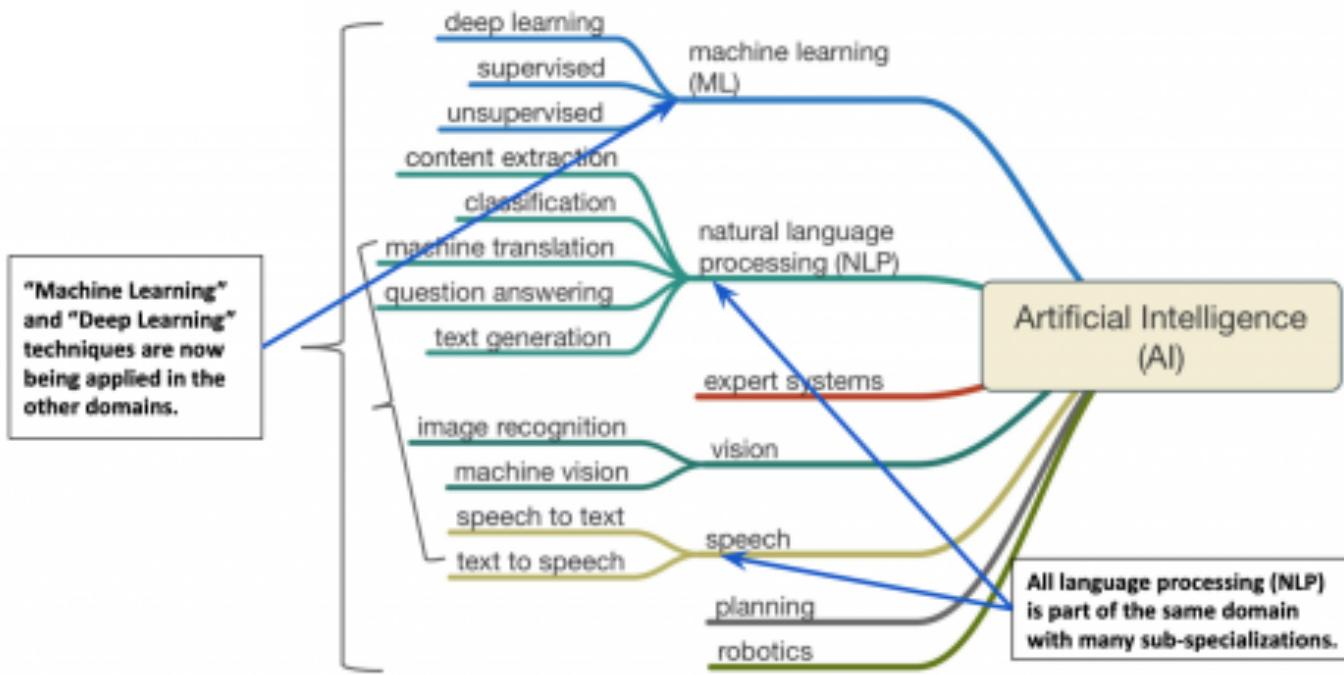


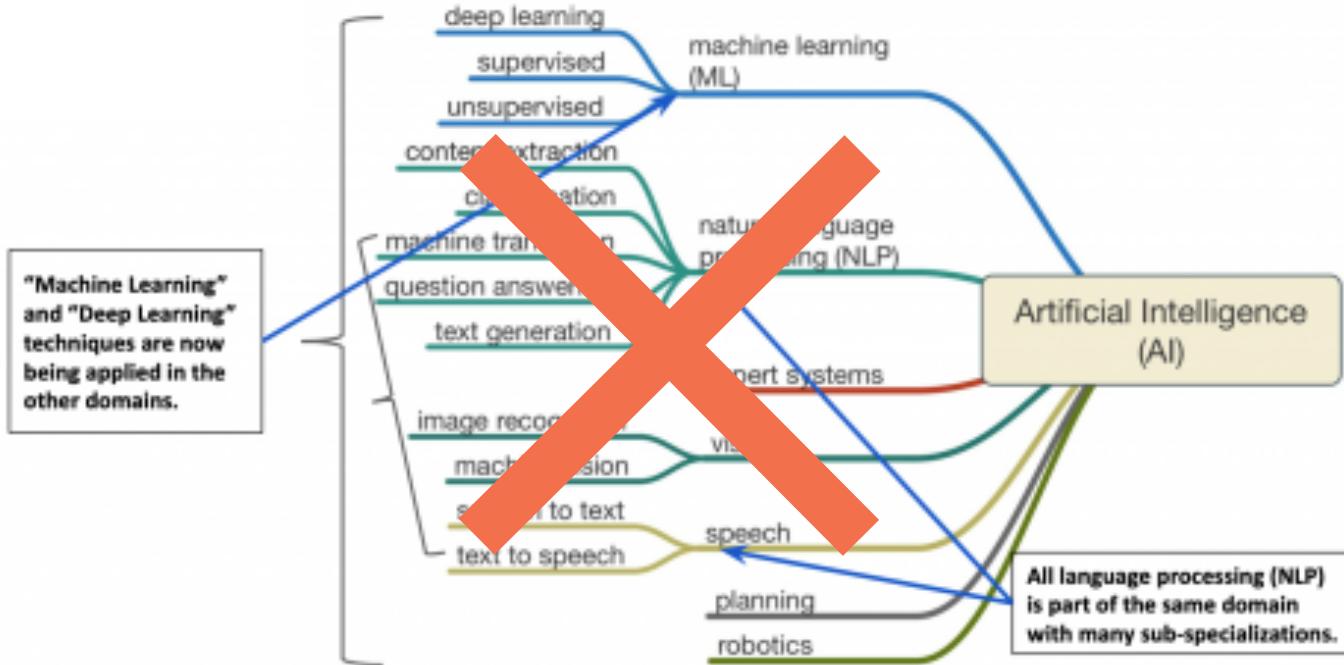
Defining AI for UX

Being more specific than “AI” when discussing designs and experience.

Technically there are numerous types of AI, but UX and designers don’t necessarily need to know those distinctions.









Defining AI for UX

We can define types of AI in terms of how it is surfaced in the user experience.



Giving commands to the system. Voice and chat assistants, conversational UI's in general.



Dictation. Simple speech-to-text and parsing of text into more structured data.



Data/Information curation and suggesting action



Defining AI for UX

Examples



Giving commands
to the system



Dictation



Data/Information curation



automate repetitive tasks
such as eligibility checks
and un-adjudicated claims

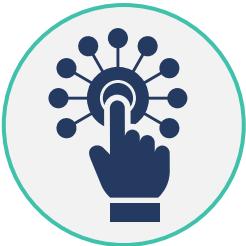


listens to a patient's
symptoms, guides that
patient to the correct care
based on its diagnosis.



Role of UX for AI functionality





Role of UX

User research activities are still very relevant and needed:
interview, ethnographic, survey, etc.

AI systems can learn but they cannot figure out which problems to solve.

“if you aren’t aligned with a human need, you’re just going to build a very powerful system to address a very small — or perhaps nonexistent — problem.”





Role of UX

Know what to apply AI to and what not to. There are many types of experience features that seem ‘intelligent’ but don’t require an AI type of solution

Gmail can look for certain words and remind the user when they may have forgotten to attach a file. But this doesn’t require machine learning.

The screenshot shows a Gmail inbox with several messages listed. A tooltip window is overlaid on the screen, originating from a message body. The tooltip has a title bar 'mail.google.com says:' and contains the text: 'It seems like you forgot to attach a file.' followed by 'You wrote "see attached" in your message, but there are no files attached. Send anyway?'. At the bottom right of the tooltip are 'Cancel' and 'OK' buttons. The background shows the standard Gmail interface with a dark header bar and a toolbar at the bottom.





Role of UX

Plan for how the AI will learn over time.

For example, users may indicate that a suggestion made by the information curation is incorrect or not desired, or whether an assistant misinterpreted their intent.

The image shows two side-by-side screenshots of a mobile application interface. Both screens display an article titled "Digital Medicine Can Diagnose and Treat What Ails You" from Scientific American Content, authored by P. Murali Doraiswamy, published 6 hours ago. The top navigation bar includes icons for back, search, and more options.

Left Screen (3:53): A red circle highlights a feedback interaction at the top. It asks, "Is this article about wearables?" with two buttons: "YES" (green) and "NO" (gray). Below this is a preview of the article content, which includes a heading "Therapeutic and diagnostic apps and bots are almost here" and a link "Read more on ScientificAmerican.com". At the bottom are "SHARE" and "VISIT WEBSITE" buttons.

Right Screen (4:02): A red circle highlights a response from the AI, Leo. It says, "Thanks! Your feedback helps make Leo smarter. Leo was 69% confident this article was about **wearables**." An icon of a robot head is shown next to the text. Below this is the same article preview and sharing options.





Role of UX

UX researchers should have an understanding of the appropriate data needed to train the types of AI, both initially and over time as the user interacts with the system.

The training data should be informed by knowledge of users; an understanding of users jobs





Role of UX

User wants to: Get a specific recent patient lab test value.

How users might ask this:

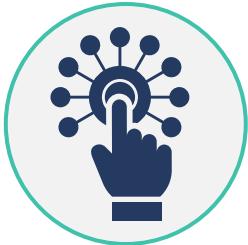
"does the patient have a
recent *labTestName*"

"what is the latest *labTestName*"

"what is the most
recent *labTestName*"

"is *labTestName* improving"





Role of UX

Because of the dynamic nature of assistants and information curation, and potentially being more mysterious to the user, **trust** becomes more important.

- when suggestions are made, do users trust them; what factors affect that trust.
- When the system cannot correctly interpret a user request, how do we still maintain trust?





Role of UX

- UX+AI Principles
- May be helpful in guiding UX decisions when working with AI systems

Start with the user

Set the right expectations

Explain the results

Communicate confidence

Degrade gracefully

Know what not to automate

Keep the user in control

Build trust over time

+8 more...

<https://uxofai.com>





Role of UX – Communicating Requirements

How to communicate AI requirements to the larger team?

For example, for AI that is based on users giving commands to the system (e.g., conversational UI's), there will be a defined set of actions that the system will support, and UX provides all of the ways that users might ask the system to do each action.

How will the system gracefully degrade when a requested user action is not supported?

UX can provide guidance on prioritizing the supported user actions.





Role of UX – Communicating Requirements

For information/data curation types of AI, UX input depends on the type of information or type of suggestion.

For examples mentioned earlier, Buoy Health and Olive, UX activities might center around identifying repetitive, error prone tasks, user trust in suggestions made by the system, and whether users find the suggested results beneficial.





Prototyping and testing potential AI solutions

Wizard of Oz prototypes are effective and relatively low cost

Similar types of prototypes as UX currently uses, but testing includes trust, usefulness, etc.





Allscripts®



@allscripts



facebook.com/allscripts



linkedin.com/company/allscripts



allscripts.com