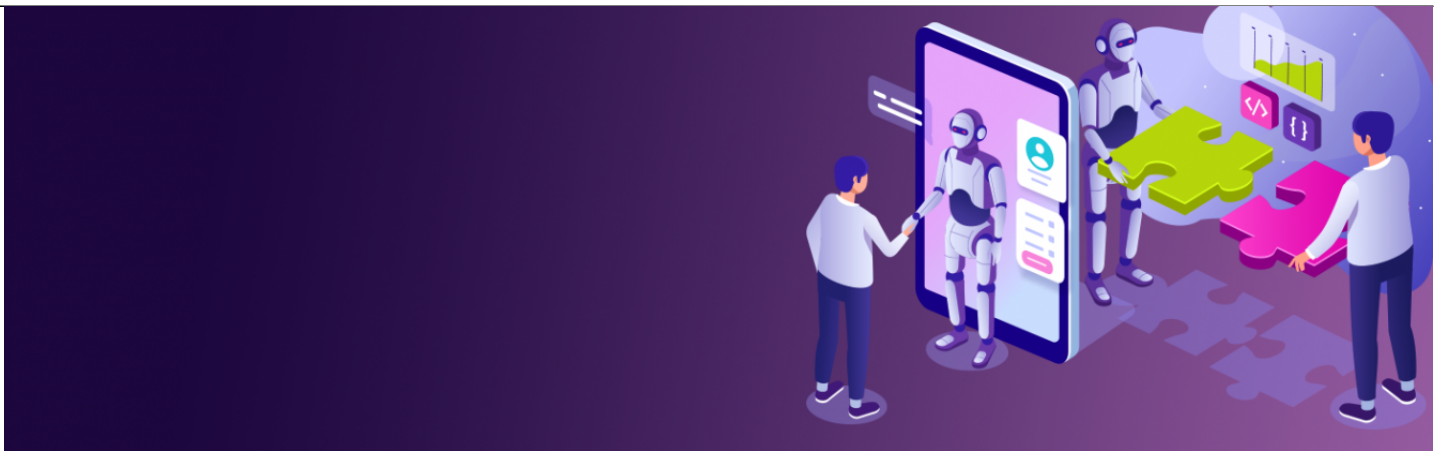

[Strengthening the Human-AI Connection](#)

Strengthening the Human-AI Connection

Human and AI collaboration requires tight integration of human operations, machine learning, and user experience design. We can look at AI as an ability to solve new problems, which is an outcome of perception, generalization, reasoning, and judgment.



A popular narrative about artificial intelligence (AI) is that [AI pits machines against people](#). The narrative says that AI will take over jobs and even run rampant to destroy human society as we know it. But let's not swallow the narrative. We need to keep in mind that it is not the tools and processes that create value, but rather the people who develop and run them. In fact, AI can make a remarkable impact by helping humans to improve the workplace and, more broadly, society.

Human Intelligence

To arrive at artificial intelligence, we first have to start with human intelligence. As Paco Nathan put it,

Knowledge doesn't come from IT, it comes from domain experts.

[Human-in-the-loop](#) AI combines the strengths of people (e.g., creativity, insights from ambient

information, historical and cultural context) with the strengths of machines (e.g., accuracy, speed, and the ability to manage repetitive tasks that people don't want to manage). Human and AI collaboration requires tight integration of human operations, machine learning, and user experience design. We can look at AI as an ability to solve new problems, which is an outcome of perception, generalization, reasoning, and judgment.

Human-in-the-loop AI systems can deliver results with high accuracy for high-stake situations. The human safety net allows algorithm developers to focus on developing for average cases but not the worst/edge cases. Humans in the loop can serve as an extra feedback loop for model training.

A Partnership

To maximize the value of the partnership between AI and people, let's first recognize what humans do well. People excel at leveraging unstructured data such as determining holistic views of someone's style, taste, or preference from number of different unstructured data streams. People provide essential attributes such as empathy, cultural and social understanding, and historical interaction context. Human strengths are in the areas of cognition, driving from ambient information, creativity, and aesthetics. While performing a particular task, human experts can make hundreds of micro-decisions that would each require a specific model or interface in order to be automated. On the other hand, human labor has high cost and can have availability and scalability challenges. People can introduce lag, and an element of human error to the equation.

AI can assist human decision makers by summarizing and presenting data in a way that helps them make good decisions. AI can help classify and filter bad content, passing only relevant content on to the human expert.

Examples

Automation to optimize human efforts can have great results. In an ideal human-machine system, humans would only do what they do best and machines would help them to do it more efficiently and effectively. For example, automation can handle repetitive tasks really well — and people should celebrate that. Who wants to handle mind-numbing sorting and counting of data?

Here are some examples of the partnership in action:

[Children's National](#). This hospital has created an AI-fueled app, mGene, that helps clinicians spot

genetic disorders in newborns. As discussed in a [recent PBS article](#), Children's National is trying to overcome a major challenge: [eight million children](#) are born with a chromosomal abnormality every year, but one third or more are not diagnosed until much later. Why? Because although more than 6,000 genetic disorders exist, newborn DNA tests typically only look for about 20 of them. Per PBS, many of those undiagnosed babies experience health complications that end up being responsible for 25 percent of all infant deaths. mGene helps the hospital spot genetic disorders using an algorithm to analyze photos of babies' faces and taking measurements such as angle of the eyes to determine a genetic condition is present. mGene can recognize four serious syndromes with accuracy rates exceeding 90 percent. mGene helps because it catches subtle details that the human eye cannot always detect. Even though the tool is in early development, it's so useful that it's identifying facial landmarks for syndromes previously unknown to doctors. As an mGene researcher points out, "There is only so much that a clinician can look at and understand." AI expands the clinician's field of knowledge and insight.

[Stitch Fix](#). This online clothing subscription service provides wardrobes for people too busy to shop. You provide a profile of your personal tastes, and Stitch Fix sends you clothing that the company thinks you'll like. You return what you don't want, and then Stitch Fix uses machine learning to make smarter clothing choices. In other words, Stitch Fix gets better by knowing more about your likes and dislikes. The key for Stitch Fix is the use of machine learning to support people. Stitch Fix relies on hundreds of machine learning algorithms to recommend clothing to its customers – but personal stylists make the decisions. The stylists provide not only their insight but also the ability to spot outliers, or potential clothing ideas that a machine might overlook. After all, AI recognizes the mainstream – but people can spot those exceptional cases that still might work for a customer.

It's exciting to consider the potential AI has for helping people make a greater impact in their fields. The key is to be mindful of what thought leader [Sharad Gandhi](#) once wrote about AI:

It is important to remember that AI is not a human substitute, but rather a tool to help us. Humans and AI will learn to collaborate as teammates — each bringing their unique skills to create a winning combination.

Pact.AI Can Help

At Centific, we practice what we preach with AI. We combine human insight with technology to help businesses prosper with AI. With Pact.AI, Centific provides a complete end-to-end portfolio of data science and data engineering services, AI application enablement, AI solution accelerators, advanced AI frameworks, and end-to-end delivery that will establish, elevate and enable your AI product vision. Centific is helping clients in high tech, banking/financial services/insurance, telecom, retail, consumer packaged goods, manufacturing, and healthcare solve various business challenges with AI. [Contact us](#) to learn more.

About the Author:

Sara served as Global Program Manager for Digital Globalization Services at Centific. She redesigned Centific's AI enablement service offering and championed the development of an E2E global project management/production platform.

- -
- -
- —
- —
- -

