Facebook wants to tap robot brains to do your bidding

November 3 2015, byBrandon Bailey

Facebook is studying the ancient Chinese game of Go for insights as it works on building an artificial brain—one that it hopes to turn into a virtual personal assistant that can also sort through a mountain of photos, videos and comments posted by its next billion or so users.

The social networking company is touting the work of its artificial intelligence team at an industry conference this week. Among its accomplishments: the development of software that can analyze a photo and answer questions about what it shows, or study a picture of toy blocks and predict whether they will fall over.

Sure, you could pay a human expert to examine a photo and answer those questions, but mustering an army of such organic brains wouldn't be cheap. "The beauty of AI systems is that we can get enough scale to deploy this to everyone on the planet," Mike Schroepfer, Facebook's chief technology officer, said in a briefing for reporters.

Facebook isn't the only tech company working on these problems. Google, Apple, Microsoft and IBM are all studying artificial intelligence, as are several smaller tech firms that are vying to develop more useful digital services for consumers and businesses. Many are competing to hire the most talented scientists from universities, according to Mike Tung, CEO of Diffbot, a Silicon Valley startup that uses artificial intelligence to scour the Web and extract data that clients can use in their business.

Facebook recently began limited testing of an online personal assistant, called "M," that uses a combination of human workers and software to answer questions and carry out tasks like ordering food or flowers for a friend. Schroepfer said Facebook is using artificial intelligence software to assist and study those interactions, so it can learn the best responses and eventually perform tasks that now require human assistance.

The social network, which boasts 1.5 billion global users, has also sponsored efforts to build drones and laser networks to help reach billions more people who currently don't have Internet access. Schroepfer said Facebook can use artificial intelligence to understand the vast amounts of information those users will upload and anticipate which messages they will want to see.

"We need systems that can help us understand the world and help us filter it better," he added.

Schroepfer plans to describe some of Facebook's work in a speech at this week's international Web Summit conference in Dublin.

One project combines a new technique for identifying visual images with the ability to field questions posed in natural language. In a demonstration video, the program answered spoken questions about a photo of a baby, describing what the baby was doing and what kind of room he was in.

Another effort uses "predictive learning" to study images and make informed predictions of what will happen, such as whether a stack of blocks is stable enough to stand or fall over.

Facebook has also developed a program to play the board game Go, which is considered a tougher challenge than chess for computers. Players in Go have thousands of options for arranging stones on the

board, and the best human players appear to recognize visual patterns without trying to calculate each potential outcome. Schroepfer said Facebook's team is using visual recognition algorithms rather than just "brute force" computing to examine every possible move.

It may be years before some of this work finds its way into Facebook's services, Schroepfer added—but it's definitely on its way.