Human resources is joining a long list of corporate functions—sales, finance and marketing, to name a few—that have been transformed by new technologies such as analytics and automation. That might sound scary, but the founder of Pymetrics, a startup that uses neuroscience to assess the characteristics of job applicants, says technology can democratize the hiring process. “It allows potential clients the ability to assess raw talent for the job rather than relying on resume proxies,” such as where someone went to school, co-founder and CEO Frida Polli told CIO Journal.

In that way it can help bring promising job candidates with non-traditional backgrounds to the fore, expanding opportunity for job seekers and helping companies connect with the people they need, she said.

Pymetrics is one of a handful of startups that are creating new tools for a market that has been synonymous with human judgment. In the case of Pymetrics, the idea is to use the tools of neuroscience to measure basic qualities such as attentiveness, “in a way that cannot be gamed,” said Dr. Polli, who has a doctorate in neuroscience from Suffolk University and an MBA from Harvard Business School.

The company has a number of beta users—none of whom agreed to be interviewed—a sign, perhaps, of the sensitive nature of bringing technology into the hiring process. Beta users, which come from industries such as finance, are using Pymetrics to augment human decisions, not replace them, according to Dr. Polli.
The beta users are using Pymetrics to make sure that they don’t miss strong job candidates who might slip through an initial screening because they lack certain standard qualifications, she said. The beta users want to avoid “false negatives,” or people who are rejected from the applicant pool but go on to receive job offers from rivals.

“At resume review, using our algorithms would have reduced false negatives from 60% to 0% (with only a slight increase in false positive rate),” Ms. Polli claimed in an email. At the next step of the hiring process, “we would have cut the false negative rate in half (again with only slight increase in false positive rates),” she said.

It isn’t possible to verify those claims, given that beta users won’t talk about Pymetrics.

The company has raised funding from Khosla Ventures, which says companies will use the technology as they seek advantage in a job market where certain skills, in areas such as technology and finance, are in great demand, according to partner Benjamin Ling, who led the investment. “The competition for top talent is booming. In the competition for employees, companies are looking for ways to differentiate themselves, through company culture and perks, and by identifying leading job candidates that come from non-traditional areas,” Ling said. “Pymetrics fits into that trend.”