10 Algorithm Categories for A.I., Big Data, and Data Science

By Chris Pehura

Are algorithms taking over our jobs? Yes, yes they are… and that a good thing.

An algorithm is a series of steps with rules that help us solve problems and accomplish goals. And when we structure these steps and rules the right way we can automate the algorithm to establish Artificial Intelligence (A.I.). And it is this A.I. that helps us do our analytical heavy lifting so we can focus our time on doing the things that we're good at… the things we were hired to do.

A.I. is changing our jobs, our work styles, and our business cultures. A.I. helps us discover and focus on the key subject matter expertise that makes our human capital good, really good at what they do. But using A.I. in the work place does get complicated. It gets complicated because there are different levels of algorithms used to implement A.I., each varying in their use and

impact. To better balance our human capital with our A.I. capital, here are the top 10 algorithm categories used to implement A.I., Big Data, and Data Science.

1 – Crunchers. These algorithms use small repetitive steps guided with simple rules to number crunch a complex problem. We give these algorithms the data, and they come back with an answer. If we don't like the answer we give the algorithms more data to fine-tune their answer. Crunchers are good at classifying customers, estimating project durations, and analyzing survey data to understand our business culture.

2 – Guides. These algorithms guide us on how to best navigate a policy, process, or workflow based on historic actions that were successful. Guides are good at coordinating a lot of moving parts needed to understand and execute things like risk management, strategic change, and complex project management.

3 – Advisors. These algorithms advise us on our best options by providing us with predictions, rankings, and likelihood-of-success based on historic patterns. Advisors are good at advising us on decision-making, planning, and risk mitigation.

4 – Predictors. These algorithms predict future human behaviors and events by using small repeatable decisions and judgments that interpret historic behaviors and events. Predictors are good at business planning, market forecasting, brand management, health diagnosis, and predicting consumer

behaviors, brand attractiveness, fraud, marketing opportunities, weather events, and disease outbreaks.

5 – Tacticians. These algorithms tactically anticipate short-term behaviors and react accordingly. They do this by applying a combination of short-term tactical rules along with information they learned about the people involved. Tacticians are good at balancing supply chains, systems performance, human capital workloads, and assembly lines.

6 – Strategists. These algorithms strategically anticipate behaviors and plan accordingly. Strategists look past the data uncovering insights and innovative opportunities. They do this by applying a combination of short-term and long-term strategic rules along with information they learned about the people involved and how these people react in various environments. Strategists are good at forecasting market demand, customer attrition, human productivity, and employee attrition.

7 – Lifters. These algorithms help us by automating our mundane and repetitive work freeing us to do what we've been hired to do. These algorithms have some subject matter expertise allowing them to do our analytical heavy lifting. Lifters are good at analyzing and recognizing repeatable patterns and gaps in regulations, fraud, risks, improvements, transformations, opportunities, and innovations.

8 – Partners. These algorithms bring out the best in us. They have a large amount of subject matter expertise in our area allowing us to be more productive and more focused. Partners are good at advising us, training us, keeping us up to date with market changes, and coordinating us and our efforts daily, quarterly and annually. Partners understand how we tick from our behaviors to when we should eat lunch to what temperature we need the air conditioning at.

9 – Okays. These algorithms have subject matter expertise in multiple areas allowing groups of us to do all our foundational analytical work. Once the algorithms complete their analyses we each review the work based on our own expertise and then okay the work. Okays are good at building the big picture through deep analysis and looking at things from all angles. They are useful for business planning, strategic change, and culture change.

10 – Supervisors. These algorithms have key subject matter expertise for how our business works. They manage us and our efforts so that we and the business stay healthy, productive, and financially strong. These algorithms orchestrate us and all the other algorithms to help us meet our strategic long-term objectives.

A.I. is key to our very business survival on the global stage. We can't compete just with our human capital alone. We need A.I. to not only automate our brain power but to also change our behaviors, habits, and work styles so we

remain competitive. To keep our competitive edge we must understand how A.I. works and A.I. must understand how we work.

To understand us, Artificial Intelligence must understand Emotional Intelligence.

About the Author

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Chris is a management consultant with a data emphasis helping Fortune 100/1000 companies strategically evolve and reinvent their businesses to maximize their revenue growth. Through realignment, to overhauls, to rebuilding things from the top down and ground up, he integrates and solidifies leaders, strategies, and solutions into all aspects of the organization. As practice director for C-SUITE DATA, a Canadian based consulting firm specializing in data and Big Data, Chris serves as a coach, trainer, and the voice for how data is the new capital that drives, multiplies, and maximizes revenue growth.

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