

Harnessing the Power of Machine Learning

BCG GAMMA Alumnus Dave Rimshnick explains what it takes to improve health outcomes and describes one of life's poetic moments.

NOVEMBER 13, 2020

WHAT ARE THE LATEST TECHNOLOGIES YOU'RE LEVERAGING AT AETNA TO IMPROVE HEALTH CARE APPLICATIONS AND PATIENT OUTCOMES?

Here at Aetna, and within CVS Health generally, we are pushing hard to reach the cutting edge of applying causal inference to health care data. We are using the latest machine-learning-based econometric methodologies to predict the individual (or heterogenous) effects of various treatments on member outcomes. We then use these predictions in several ways: deploying tailor-made care management approaches to high-risk members; optimizing the deployment of campaigns to encourage a specific treatment, such as breast cancer screening; and improving the maintenance of chronic diseases.

WHAT DOES A DAY IN YOUR ROLE AS SENIOR DIRECTOR OF DATA SCIENCE AT AETNA LOOK LIKE?

As the leader of a large team of data scientists, consultants, researchers, and clinicians here at CVS Health, I spend most of my time brainstorming and problem solving with my team on how to continue making progress on our various initiatives and how to overcome obstacles to continuously arrive at solutions. In addition, I maintain and develop relationships with stakeholders, focus on developing team members individually during 1:1s, and lead the recruiting efforts for my group.

YOU USED TO BE ON THE BCG GAMMA TEAM. ARE THERE ANY LESSONS FROM THAT TIME THAT CONTINUE TO INFLUENCE HOW YOU OPERATE AND LEAD TODAY?

One of my biggest takeaways from working at BCG GAMMA is the value of continuously using data science to drive business impact. Among the most valuable things I do today is shaping a fundamental understanding in my team of how to think about bottom line impact, which entails brainstorming where opportunities may lie, building processes that optimize lift, and communicating with stakeholders.

WHAT ADVICE WOULD YOU GIVE THOSE WHO WANT TO BECOME MORE INVOLVED IN SHAPING THE FUTURE OF TECHNOLOGY?

Unequivocally, the most important part about shaping the future of technology is, perhaps counterintuitively, to not start by thinking about technology. Instead, start by paying very close attention to the problems you and your organization are facing. Your innate knowledge, combined with the continued focus on problems, will make the data science and technology solutions clear. And the solutions that you come up with in this way will, accordingly, solve the right problems.

This was my experience in developing FactorPrism, a software package I wrote for automatically finding and isolating the most meaningful patterns in time series data.

I didn't start with a piece of technology or method I wanted to use. I focused on a clear problem that needed to be solved. Ironically, solving that problem over many years led me back to a solution using linear programming, which is what I studied in college. If you'd ask me before I had started if that is where I would have landed with a solution, I'd have never believed you. Sometimes life has a nice poetry that way.

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