

NHL launching faceoff probability stat with AWS technology

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Los Angeles Kings center Anze Kopitar (11) and Vegas Golden Knights center William Karlsson (71) vie for the puck after a faceoff during the first period of an NHL hockey game Friday, Feb. 18, 2022, in Las Vegas. Credit: AP Photo/David Becker

The NHL is launching a new faceoff probability stat that uses a decade's

worth of data and in-game analytics to determine the likelihood of each player in the circle winning the draw.

The league and Amazon Web Services unveiled the new feature Tuesday. It's the latest innovation in the puck and player tracking sphere and could be just the start of machine-learning technology in hockey with implications for gambling and countless other statistics.

Using information from the past 10 years of games in combination with the location of a faceoff, game situation and player performance, AWS software spits out percentage chances of who's coming away with the puck in a matter of seconds before the linesman drops it.

"Hockey is such a series of so many events that lead up to an outcome," NHL executive vice president of development and innovation Dave Lehanski said. "We've identified the faceoff as being this key component—the beginning of some of these incredible events, and that's what we want to start analyzing."

Faceoff probability graphics are set to debut on Sportsnet in Canada this week and on ESPN and Turner later in March. Down the road, the stat could become a gambling opportunity for real-time, in-game betting.

"The technology will enable that," Lehanski said, deferring to league officials about what might become betting options in the near future. "The technology is at a place and will soon get to a place where almost any in-game event could be processed to potentially be a bet type—something that someone could take a bet on. "



St. Louis Blues center Jordan Kyrrou (25) falls over the stick of Ottawa Senators left wing Brady Tkachuk after a faceoff during the first period of an NHL hockey game Tuesday, Feb. 15, 2022, in Ottawa, Ontario. Credit: Justin Tang/The Canadian Press via AP

Priya Ponnappalli, senior manager of Amazon Machine Learning Solutions Lab, said the NHL and AWS built the model using data from thousands of faceoffs from the NHL's Hockey Information and Tracking System (HITS).

"This data source was significantly varied and complex, incorporating

such information as a player's home and away faceoff statistics, head-to-head matchup history, player characteristics such as height, weight, and handedness and game context such as the faceoff location, game score, and faceoff time," she said. "This combination of historical success rates, player matchup characteristics, and game context brings together HITS and puck and player tracking data to provide a complete perspective for a faceoff's dynamics."

Lehanski said ideas like this dates to Commissioner Gary Bettman and TV executive David Hill's FoxTrax glowing puck from the mid-1990s. Technology has advanced so far that it has paved the way for more precise elements like the new faceoff predictor tool.

"Really, this is just the beginning," Lehanski said. "Today we're just talking about face offs, but this could expand the way we look at goaltending, power plays and almost everything else. There's so much more."

It likely won't be as scientific as some of the data in other sports—mostly because of hockey's inherent randomness. That's why the NHL and AWS focused on faceoffs as a gateway into more advanced data.

"Unlike baseball where there's one pitcher, there's one pitch, there's one batter, there's one swing, you could analyze every single pitch as a discreet event," Lehanski said. "That's hard to do in our game. We love it because that's what makes the game so unique—that's what makes all these plays so amazing, all the little things that have to come together. For right now, what we're trying to do is use the technology to sort of demystify those plays and identify all those little things that come together to get fans to appreciate them and understand."

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