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TECHNOLOGY

A Lawsuit Against Uber Highlights the Rush to Conquer Driverless Cars

By MIKE ISAAC and DAISUKE WAKABAYASHI FEB. 24, 2017

SAN FRANCISCO — Late last year, Uber, in defiance of California state regulators, went ahead with a self-driving car experiment on the streets of San Francisco under the leadership of Anthony Levandowski, a new company executive.

The experiment quickly ran into problems. In one case, an autonomous Volvo zoomed through a red light on a busy street in front of the city's Museum of Modern Art.

Uber, a ride-hailing service, said the incident was because of human error. "This is why we believe so much in making the roads safer by building self-driving Ubers," Chelsea Kohler, a company spokeswoman, said in December.

But even though Uber said it had suspended an employee riding in the Volvo, the self-driving car was, in fact, driving itself when it barreled through the red light, according to two Uber employees, who spoke on the condition of anonymity because they signed nondisclosure agreements with the company, and internal Uber documents viewed by The New York Times. All told, the mapping programs used by Uber's cars failed to recognize six traffic lights in the San Francisco area. "In this case, the car went through a red light," the documents said.

The description of the traffic violation reflects Uber's aggressiveness in its efforts around self-driving cars and the ambition of its project leader, Mr. Levandowski, who is now at the center of a lawsuit brought against Uber by Waymo, an autonomous car business. Waymo is Google's cousin company under their parent entity, Alphabet.

The legal battle also provides a rare glimpse into the high-stakes world of top technology talent, where star engineers like Mr. Levandowski, who played a central role in Google's pioneering autonomous car project, command huge sums of money to try to help define a company's technological future.

After leaving Google in January 2016, Mr. Levandowski formed the self-driving truck company Otto. About six months later, Uber bought Otto for \$680 million, and Mr. Levandowski became Uber's vice president in charge of its self-driving car project.

Waymo filed a lawsuit on Thursday in federal court against Uber and Otto, accusing Mr. Levandowski and Uber of planning to steal trade secrets.

The suit said Mr. Levandowski retrieved information from a highly confidential server with designs of crucial technologies used in its autonomous vehicles in the month before he resigned from Google, where he had spent nine years working on maps and self-driving cars.

Alphabet and Uber view autonomous vehicles as using critical technology that may upend the automobile industry. Google started working on driverless cars around the time when Uber was formed, and Google is eager to prove that, despite its size and past successes, it can still innovate like a start-up. And replacing human drivers with self-driving cars would allow Uber to theoretically provide safer rides around the clock. Robot cars would also allow the ride-hailing service to avoid one of its biggest headaches — its drivers.

"There's an urgency to our mission about being part of the future," Travis Kalanick, Uber's chief executive, said in an interview in August after announcing Otto's acquisition. "This is not a side project. This is existential for us."

Engineers like Mr. Levandowski are part of a limited pool of people with the experience and capability to lead efforts on self-driving cars. They are wooed by traditional automakers looking to acquire new technical talent and tech companies, both established firms and start-ups, who see the opportunity to use artificial intelligence and sensors to disrupt another industry.

“What’s in these people’s heads is hugely in demand,” because the talent pool “just doesn’t have enough miles under the wheels,” said Martha Josephson, a partner in the Palo Alto, Calif., office of Egon Zehnder, an executive recruiting firm.

In fact, Sebastian Thrun, who founded Google’s self-driving car project and is now the chief executive of the online teaching start-up Udacity, said last year that the going rate for driverless car engineering talent was about \$10 million a person.

Current and former co-workers of Mr. Levandowski, who asked for anonymity because they did not have permission to speak to reporters, said he was aggressive and determined with an entrepreneurial streak.

Since leaving Google, Mr. Levandowski, 36, has embodied the Silicon Valley ethos that it is better to ask for forgiveness rather than permission.

Uber said in a statement that the lawsuit was a “baseless attempt to slow down a competitor,” and declined to make Mr. Levandowski available.

But in an internal email to Uber employees obtained by The New York Times, Mr. Levandowski said that Otto did not steal any of Google’s intellectual property, and that self-driving technology has been his life’s passion, having worked on it since his college days. He alluded to sharing more information with employees when he could in the future.

A Waymo spokesman declined to comment on whether the company would refer its claims to law enforcement.

Mr. Levandowski first gained renown as a graduate student at the University of California, Berkeley, in 2004, when he designed a riderless motorcycle that was entered in the Pentagon’s first contest for autonomous vehicles. A profile in The New Yorker, published in 2013, said Mr. Levandowski grew so focused on overcoming the

bike's technical hurdles that he offered \$5,000 to the girlfriend of a team member, who Mr. Levandowski felt was being distracted, to end the relationship.

He joined Google in 2007 as part of its Maps team and helped to build the company's Street View product. When Google gave the green light to begin working on a self-driving car in 2009, Mr. Thrun picked Mr. Levandowski for the original team.

Mr. Levandowski gained some notoriety within Google for selling start-ups, which he had done as side projects, to his employer. In his biography for a real estate firm, for which he is a board member, Mr. Levandowski said he sold three automation and robotics start-ups to Google, including 510 Systems and Anthony's Robots, for nearly \$500 million. After this story was published, the real estate firm updated its website erasing Mr. Levandowski's biography and said that it had "erroneously reported certain facts incorrectly without Mr. Levandowski's knowledge."

During Mr. Levandowski's time on Google's self-driving car project, the company's advances pushed autonomous vehicles out of the realm of science fiction. By late 2016, nearly 60 of Google's self-driving cars had driven more than two million miles on the road in four different states. But according to former co-workers, Mr. Levandowski became frustrated with the pace of progress at Google, worrying that the company was squandering its technical advantage by not moving fast enough.

When Otto was unveiled in May, it showcased a flashy video of one of its trucks on a haul through the Nevada desert. The star of the show was the driver's seat, completely empty, as the truck drove itself down the highway.

But that test drive was carried out without the proper permits and against the will of the Nevada Department of Motor Vehicles, a move that the agency eventually called "illegal."

When Uber bought Otto, Mr. Levandowski found a kindred spirit in Mr. Kalanick, who is also known for pushing the rules. In an interview with Bloomberg

Businessweek in August 2016, Mr. Kalanick said they were “brothers from another mother.”

After one week of testing in San Francisco last year, Uber backed down from its fight with California regulators and announced it was pulling its self-driving Volvos out of the city after the state’s D.M.V. revoked the registrations of the vehicles.

When asked on Friday about the incident with the red traffic light, Ms. Kohler, the Uber spokeswoman, said in a statement: “Our self-driving technology required human intervention. The vehicle operator had time to intervene, but failed to take over before crossing the stop line and manually proceeded through the protected crosswalk.”

In December, Uber said it remained “100 percent committed” to eventually bringing autonomous vehicles to California.

Nonetheless, the company loaded its Volvos onto a flatbed truck, and took them to Tempe, Ariz., a city more friendly to testing self-driving vehicles. In bold black letters stamped across the truck’s white cab was the name of the truck operator: “Otto.”

Correction: March 1, 2017

An article on Saturday about talent in the driverless technology field referred incorrectly to comments by Anthony Levandowski, a former Google engineer who started the self-driving truck company Otto, which was bought by Uber and is at the center of a lawsuit by another autonomous car business, the Google affiliate Waymo. The statement, denying that Otto stole any of Google’s intellectual property, was paraphrased from an internal company email; it was not a direct quotation from Mr. Levandowski.

A version of this article appears in print on February 25, 2017, on Page A1 of the New York edition with the headline: The Star Engineer at the Heart of a Legal Battle Against Uber.

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