



Avinash Balachandran, Ph.D., is Vice President of the Human Interactive Driving (HID) division at Toyota Research Institute (TRI), where he leads the development of human-centric Physical AI that redefines how people and intelligent vehicles work together. His work is driven by the belief that the future of autonomy lies in human amplification, not human replacement. He oversees TRI's driving-related research, guiding teams across machine learning, robotics, and human-machine interaction to advance how vehicles are designed, engineered, and manufactured while improving safety, confidence, and driver enjoyment.

Before joining TRI, Dr. Balachandran was an early engineer on Uber's self-driving program, contributing to the launch of its first autonomous ride service in Pittsburgh in 2016, and later led autonomous driving teams at Faraday Future. Across these roles, he has consistently worked to translate cutting-edge research into deployable technologies.

A globally recognized industry leader, Dr. Balachandran is a frequent keynote speaker, advisor, and panelist on autonomy, human-centered AI, and the future of mobility. He delivered keynote addresses at the FAST-Zero Symposium in Kanazawa, Japan (2023), the SAE International World Congress Experience (WCX) (2024), the Open Data Science Conference (2025), and participated in high-profile discussions at the Financial Times Future of the Car Summit (2024). His invited talks span premier technical and academic forums, including the MIT Mobility Forum (2022), IFAC World Congress (2023), and IEEE ICASSP / Signal Processing for Autonomous Systems (2023), where he has articulated a human-centered vision for embodied AI in the physical world.

Dr. Balachandran holds a Ph.D. and M.S. in mechanical engineering from Stanford University and a B.S. in mechanical engineering with a minor in computer science from Cornell University. He is a Stanford Graduate Fellow and serves as an adjunct lecturer at Stanford University, contributing to the next generation of engineers and researchers.