Dr. Homayoon Kazerooni is a professorof mechanical engineering at the University of California, Berkeley, where he also serves as the director of the Berkeley Robotics and Human Engineering Laboratory. With more than 30 years of mechanical engineering experience and a doctorate degree from MIT, he is a leading expert in robotics, control sciences, exoskeletons, human-machine systems and augmentation, bioengineering, mechatronics design, intelligent assist devices, and power and propulsion. Prior to his more well-known research on lower extremity exoskeletons, Dr. Kazerooni led his team at Berkeley to successfully develop robotics systems that enhanced human upper extremity strength. The results of this work led to a new class of intelligent assist devices that are currently used by manual laborers in distribution centers and factories all over the world. These technologies are currently marketed worldwide by leading material handling corporations.

Dr. Kazerooni’s later work focuses on the control of human-machine systems specific to lower human extremities. After developing BLEEX, ExoHiker, and ExoClimber–three super-light, load-carrying exoskeletons–his team at Berkeley created HULC (Human Universal Load Carrier). It is the first energetically-autonomous, orthotic, lower extremity exoskeleton that allows its user to carry 200-pound weights in various terrains for an extended period, without becoming physically overwhelmed. The technology was licensed to Lockheed Martin and now is used for a variety of military applications. Dr. Kazerooni has also developed lower-extremity technology to aid persons who have experienced a stroke, spinal cord injuries, or health conditions that obligate them to use a wheelchair. His medical exoskeleton, Ekso, has successfully allowed those who have been paralyzed to walk, stand, and speak face to face with peers in an upright position.

In addition to his teaching work and research experience in academia, Dr. Kazerooni is also an entrepreneur. In 2005, he founded Ekso Bionics (www.eksobionics.com), which went on to become a publicly-owned company in 2014 and now supplies medical exoskeleton (Ekso) to a great number of rehabilitation centers worldwide. He is the founder and chairperson of suitX, a VC, industry, and government funded company that provides accessible, affordable exoskeletons for the industrial, medical, and military markets (www.suitx.com). Dr. Kazerooni has won numerous awards including Discover Magazine’s Technological Innovation Award, the McKnight-Land Grant Professorship, and has been a recipient of the outstanding ASME Investigator Award. His research was recognized as the most innovative technology of the year in New York Times Magazine. He has served in a variety of leadership roles in the mechanical engineering community and is notably the editor of two journals: ASME Journal of Dynamics Systems and Control and IEEE Transaction on Mechatronics. A recognized authority on robotics, Dr. Kazerooni has published more than 200 articles to date, delivered over 130 plenary lectures internationally, and is the inventors of numerous patents