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## Human-robot interactions

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Human-Robot Interactions (HRIs) have been increasing in the last decades. This is because of a change in how items are being manufactured. Every time factories are looking for ways to optimize their current setting. This is to reduce costs and produce more by being efficient. One of the steps taken was to start diminishing the distance an item has to move from the beginning all the way to the final stage. In order to achieve shorter distances and smaller costs, humans and robots have started to work almost next to each other. This can lead to a more accident prone environment for the humans that work next to these robots. The main concern is that there are already more than 1 million robots in use worldwide. How can these become safer for the humans and in a cost effective way? This paper will explore the different technologies currently available to make the current robots human friendly and how the risk minimizing is done.

## Biography

Tariq Tashtoush is an Assistant Professor of Engineering in Texas A&M International University (TAMIU), Laredo, TX. He got his PhD and MS degrees in Systems and Industrial Engineering from State University of New York at Binghamton on 2013 and 2009, respectively and his BS in Electromechanical (Mechatronics) Engineering from Jordan University of Science and Technology (JUST), Irbid, Jordan in 2005. Currently, he is the faculty advisor and team leader of TAMIU Robotics and Intelligent Systems team and Students Engineering Council. In addition, he is the West Officer for the Corpus Christi Section of IEEE and the advisor and facilitator for the Youth Science Leader of Laredo non-profit organization. He is a multidiscipline engineer, who has experience in the field of Simulation and Systems Design, Production Quality and Management, Lean Manufacturing, Robotics and Automation, 3D Printing Processes, Engineering Statistical Analysis, Project Management, Optimization, Instruments and Electrical Devices, Reliability, Healthcare Systems, and Human Factors.

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