bin picking Pesquisa Preferências

# Bin Picking

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Braintech's Random Bin Picking uses the Company's unique VGR technology to locate and grasp randomly situated materials from generic bins, allowing them to be moved through assembly and manufacturing lines without high annual costs associated with manual labor, dedicated sorting machines, custom bins and trays. [1.1] Braintech's technology solves the bin-picking problem in a highly unstructured environment where parts are completely jumbled within a bin and are under various degrees of occlusion. [1.2]

"We believe this is a major advancement," Braintech Chief Executive Officer Rick Weidinger said. [1.3] "Braintech's new development is the next big stepping stone in Vision Guided Robotics," ABB Robot Automation Vice President and General Manager Jerry Osborn said. [1.4]

"Bin Picking has been a major point of discussion for intelligent material handling for some time. [1.5] Several companies already claim to have random bin picking capability, but in reality, what has been offered to date is what we would consider 'semi-structured' bin picking. [1.6]

Where auto-racking was five years ago robotic bin-picking is today, says Adil Shafi of Shafi Inc. Now an emerging technology, bin picking involves similar challenges as auto-racking: robot vision systems must differentiate among different parts in different positions, including its X, Y, Z, pitch, yaw and roll coordinates. [1.7] What makes bin picking more challenging "is the extreme variation of parts," he [Adil Shafi] says. [1.8] Consider a part rolled onto a table. [1.9]

It can come to rest in many different stable positions, and putting that part in a bin adds even more pitch, yaw and roll variations. [1.10] On top of this, a system must interpret a part's exact position in relation to other parts (in front, in the middle or back) and, perhaps most challenging, the exact angle it sits in the bin. [1.11]

It is intended to provide a brief overview of Bin Picking's progress towards reliable and widespread use, with Vision and/or Light Guided Robotic techniques, and then to provide a methodology to consider, carefully test, and implement reliable Bin Picking. [1.12] Presently, we have hundreds of cells running AutoRacking reliably in our industry and some companies implement AutoRacking on every new manufacturing program. [1.13]

A few solutions have been running in production for more than three years and more are being implemented each year. [1.14] Within a decade or so, all Bin Picking will be automated. [1.15] Our next generation will wonder why people would want to pick parts manually, more slowly and more expensively than a fast robot from a bin. [1.16]

Bin Picking, in the past three years, has quietly but steadily made advances in commercial production lines. [1.17] The article was entitled " Vision Guided Robotics: In Search of the Holy Grail." [1.18]

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