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Four Numbers per Joint Are Enough: Denavit-Hartenberg Convention

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Suppose we have an industrial robot arm with six joints. Even a small turn of one joint moves the whole arm behind it, and the hand at the tip ends up somewhere entirely different. To compute this chain of motion, we first need a fixed way of writing how each joint and link is shaped. If everyone picks their own frame of reference, the same robot yields different equations. The agreement that neatly captures these relations with just four numbers per joint—that is the ‘Denavit-Hartenberg Convention.’ Put simply, the Denavit-Hartenberg convention means ‘a method of attaching coordinate frames t