Research Paper Overview on Industrial Robotic Machining Advancement in the Industry

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In brief, the paper dives into the advancement in robotic machining by using four worldviews to research the changes and collect data from several people. They include postpositivism, pragmatism, constructivism and transformative, where researchers collect data in qualitative and quantitative approaches depending on the approach that fits the particular worldview. Researchers use interviews, observations and surveys to examine the data they collect to ensure the sturdiness of the study (Creswell & Creswell, 2018). It also focuses on the distinctive features differentiating qualitative from quantitative study. For example, in quantitative studies, researchers use numerical data collected from studies, while in qualitative only non-numeric data made of visual and textual information is viable. Data analysis methods differ from quantitative studies applying ANOVA or regression, whereas in qualitative studies, researchers employ content or thematic analysis (Ravichandar et al., 2020).

The paper includes a literature map of industrial machining advancement in the industry and its distinct sub-branches. Another subject it discusses is the literature review of the topic from various articles. For example, Ghelani (2022) discusses cyber threats and security, emphasizing the need to protect robotic systems. Consequently, Lee & Lim (2021) inform how societal progress can connect to technological development through machine learning transforming industries. Industrial robotic machining advancement in the industry is essential as it improves productivity because it is faster than humans and can perform numerous tasks simultaneously. Conversely, robotics enhance safety, especially in manufacturing industries, by carrying out dangerous tasks that humans cannot do or the activities they mostly get injured on the job. Robotics reduce the cost of production in industries because a task performed by ten people can only be performed by one or two robots as they are more efficient, especially in manufacturing or production (Goel & Gupta, 2020). Overall, the paper addresses advancement in

industrial robotic machining by collecting data from the public, describing the methods researchers use to collect data and pinpointing the various robotic machining advancements in the industry through a literature review.

References

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