**Classification**

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## **Module 4**

In my program, classification gives me a way to turn unstructured image data into something useful for the business. By training a model to classify camping gear like chairs, tables, and cots, I can automate the sorting of product images and connect them to the right catalog categories. This reduces the amount of manual tagging my team would otherwise have to do and makes the data cleaner and more consistent across systems. Classification can also go deeper by identifying colors and styles, which improves search, filtering, and targeted ads. For example, the system can recognize not just that an item is a chair, but that it is a green folding chair, which helps customers find exactly what they are looking for and supports more accurate ad targeting. Over time, the model will improve as more training data gets added, which means better accuracy and more business value. This approach highlights how AI classification can take raw images and generate actionable insights that support decision-making and efficiency in a retail setting (Alzubaidi et al., 2021; Sharda et al., 2023).

Alzubaidi, L., Zhang, J., Humaidi, A. J., Al-Dujaili, A., Duan, Y., Al-Shamma, O., Santamaría, J., Fadhel, M. A., Al-Amidie, M., & Farhan, L. (2021). Review of deep learning: Concepts, CNN architectures, challenges, applications, future directions. *Journal of Big Data, 8*(1), 53.<https://doi.org/10.1186/s40537-021-00444-8>

Sharda, R., Delen, D., & Turban, E. (2023). *Business intelligence, analytics, data science, and AI: A managerial perspective* (5th ed.). Pearson.