Handwritten Digit Classification (MNIST)

Introduction

Figure 1: Bank Checks

In our digital age, handwritten documents still hold a significant place in our lives. Our daily lives are filled with handwritten letters, legal documents, shopping lists and mathematical equations.

Through the marvels of optical character recognition (OCR), handwritten content has become seamless to convert into various electronic formats. With a simple picture of from our notebook, many of our phones are able to convert our notes into a text file. As our world becomes increasingly connected, the demand for rapid and accurate analysis of physical documents have increased. For Instance, millions of transactions via check are automatically processed via OCR to ensure their accuracy.

Within this project, we explore the seminal paper: “Gradient-Based Learning Applied to Document

Recognition", in order to apply various classification methods to recognize handwritten digits (Lecun et al., 1998).

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Tables	Are	Cool
col 1 is	left-aligned	$1600
col 2 is	centered	$12
col 3 is	right-aligned	$1

References

Lecun, Y., Bottou, L., Bengio, Y., & Haffner, P. (1998). Gradient-based learning applied to document recognition. *Proceedings of the IEEE*, *86*(11), 2278–2324. https://doi.org/10.1109/5.726791