Annotated Bibliography

Miles Fike

September 4, 2025

References

[1] Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein. *Introduction to Algorithms, Third Edition*. The MIT Press, 3rd edition, 2009.

This is a popular algorithms textbook which is well-cited. In particular, Part VI on graph algorithms will be of interest. Chapter 26 discusses flow networks and introduces commonly used notation. It formally describes the problem of obtaining a maximum flow and its equivalence to obtaining a minimum cut. The classical method of Ford and Fulkerson's algorithm for finding a maximum flow is described, and it includes several examples. Additional methods for obtaining a maximum flow, including the push-relabel method, are also described. The chapter notes include additional references to specific articles which may be helpful, such as those of historical interest (the article in which an algorithm was originally proposed) as well as state-of-the-art improvements (more recent articles to improve the approach).

[2] Soonhoi Ha and Eunjin Jeong. Software optimization and design methodology for low power computer vision systems. *ACM Trans. Embed. Comput. Syst.*, 24(1), December 2024.

[3] Ying Yu and Yuhe Tian. Research application of computer vision-based convolutional neural network in handwriting recognition technology. In *Proceedings of the 4th International Conference on Computer, Artificial Intelligence and Control Engineering*, CAICE '25, page 177–181, New York, NY, USA, 2025. Association for Computing Machinery.

This paper analyzes how handwriting recognition technology based on convolution neural networks work. A convolution neural network is generally used for processing grid data and is a feed forward neural network. A convolutional neural network has an input layer that takes in data like 2D images, a convolution layer, which applies kernels to an image, which extract specific features to produce an output feature map, the pooling layer which is used to compress the data and prevent overfitting by taking the averages or maximums of regions, and next, the fully connected layer is used in the last layers of the network and perform tasks like classification on each feature, and finally, the output

layer returns results. Handwriting recognition technology is used to convert handwriting into a computer-processable form. This handwriting recognition technology is more widely implemented now because of AI's development and used for diverse purposes including the preservation and retrieval of ancient books. The MNIST is a data set containing handwritten digits. Pytorch was used to build a handwriting recognition model with the MNIST as its training set. The resulting model was vastly successful, but had trouble with multiple digits in succession or with incoherent strokes. The authors of this source, Ying Yu and Yuhe Tian are both associated with the College of Design and Art Shenyang Architecture University, and Yuhe Tian has researched AI in the past, but it is difficult to determine the extent of their background in AI. The sources that the authors use were written by research scholars and faculty at other universities. Overall, the source seems reputable, but the authors are not easily researchable. This source's overview of computer vision implemented in the context of handwriting provided strong background information for any potential investigation computer vision's implementation in identifying historic ligatures which could prove challenging because the authors implied that the computer vision struggled with numbers in succession and this certainly would apply to letters as well.