

IN-SIGHT VIDI READ

TIPS & TRICKS

In-Sight® ViDi™ Read is an optical character recognition (OCR) tool which leverages deep learning to read characters under challenging conditions. While the Cognex In-Sight D900 makes setting up these deep learning OCR applications easy right out of the box, to get the most out of the product you sometimes have to dive deeper than the default configurations.

This guide will show you how to optimize your In-Sight ViDi Read tool performance over a range of applications. These tips and tricks can help lower your cycle time and maximize throughput in your application.

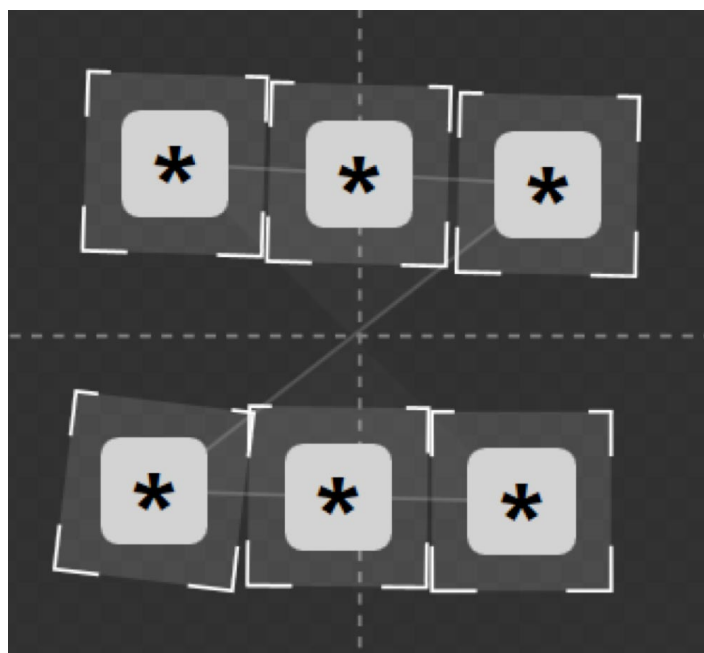


Tip #1: Check your model

The two most common models when using the ViDi Read tool are the Node model and the RegEx model; however, these two are not always interchangeable and will perform differently than one another depending on the application.

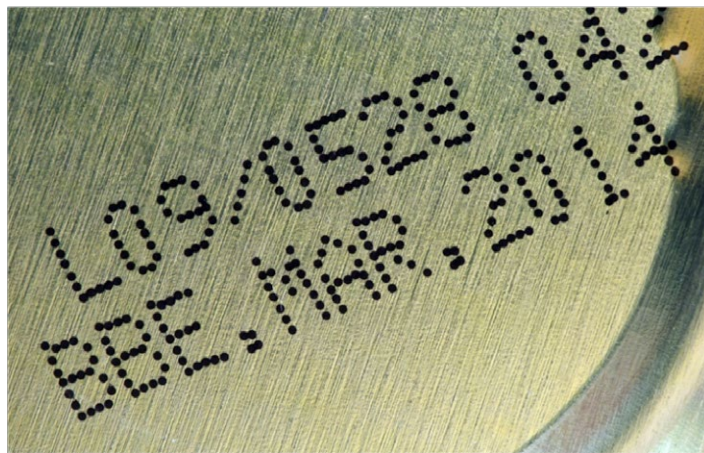
A Node model is the default option when a new model is created. This can be a robust option for OCR as it can handle a variety of patterns such as curved paths and multiple lines of text. This robustness, though, can come at the cost of processing time.

If your application has linear text on a single row, using a RegEx model can yield a speedup of 70% over an equivalent Node model.



Tip #2: Don't be afraid to change sampling density

The Sampling Density is a runtime parameter that determines how many samples of your image In-Sight ViDi Read will process in order to return a result. While the tool defaults to a sampling density of 4, changing this number will not always impact the accuracy of your application. Lowering this number by 1 can yield a speedup of 80% over an equivalent RegEx model with a Sampling Density of 4 while impacting your score by less than 3%.



Tip #3: Dial in your feature size range

In In-Sight ViDi Read, the term "Size Range" is used to describe how big or small you expect your characters to be, and a range is automatically set to make sure all expected characters are included. Keeping this default Size Range is useful for when you have variances in your font and character dimensions. If your character size is uniform, however, then changing the Size Range to more closely resemble your expected threshold can yield a speedup of over 35%.

Tip #4: Mix and match your optimizations

When these tips and tricks are used together a RegEx model with decreased feature size range and sampling density can be almost three times faster than a standard Node model. It is important to pick the optimizations that are right for your application. Not all of these techniques for improving performance will be applicable to all situations, yet each individual improvement can yield tremendous time benefits to the runtime of your application.

No matter what tips you follow always make sure to test and validate the performance of your system before deploying.



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