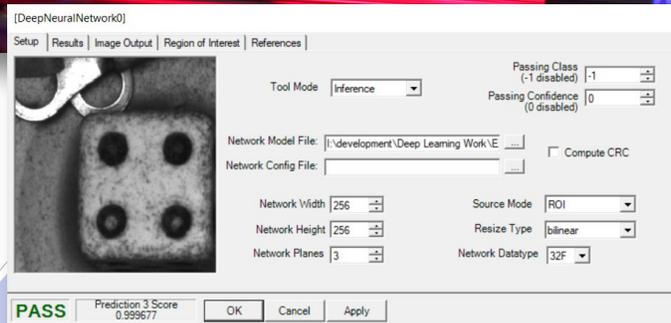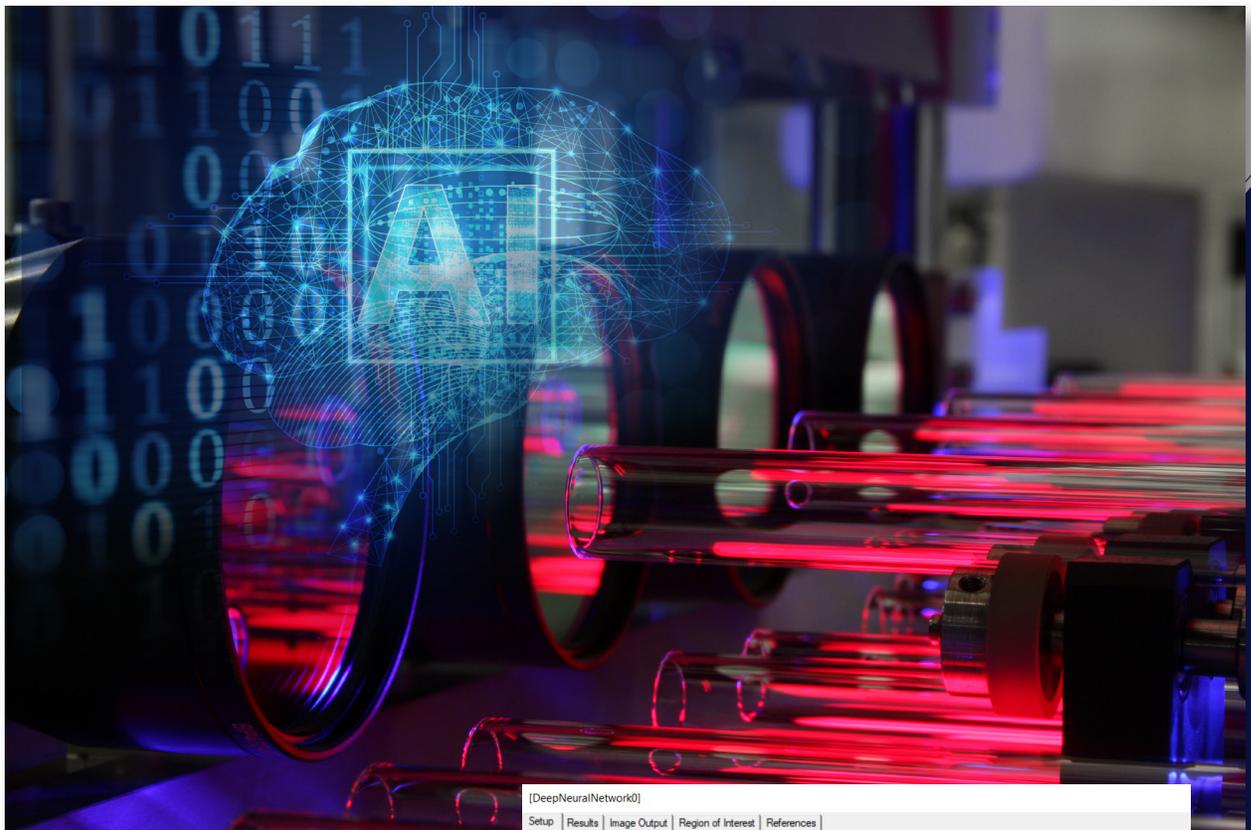# AI MACHINE VISION

Solve challenging vision problems previously not possible. Deploy artificial intelligence-based vision solutions from experienced ATS vision engineers. Increase inspection robustness, decrease development time, and decrease false rejects. Open software and hardware architecture provides maximum flexibility, and a Deep Neural Network tool provides powerful new capabilities to solve problems on the manufacturing floor.

AI MACHINE VISION

DESCRIPTION

ATS provides the expertise to consult on, design and deploy artificial intelligence-based vision inspection systems. The industry experience of ATS vision engineers provides a deep understanding of which inspections could be assisted by artificial intelligence, and which are best solved with traditional machine vision. Each vision problem is unique and may require a unique toolset which can include deep learning tools for classification, object detection, anomaly detection and text recognition. To provide this toolset, ATS has developed and deployed a Deep Neural Network tool. This development allows for deployment of state-of-the-art deep learning models, trained for each individual task, in combination with the strengths of ATS SmartVision™ – an established and robust general-purpose machine vision software, which is platform independent with an easy-to-use standard user interface. If the ATS-developed offerings are not the best solution for the customer and problem, ATS will draw upon extensive industry knowledge to source and integrate the product that will provide the best solution to each unique problem.

FEATURES

- Retrofit AI onto existing machines to increase performance
- Perform design and integration of vision systems to collect data to be used for an artificial intelligence solution
- Consult on and complete POP work to solve challenging manufacturing problems with machine vision and artificial intelligence expertise
- Design and integrate machine vision systems with powerful artificial intelligence tools
- Implement a multi-stage project to move from manual inspection to an automated AI-based inspection

DETAILS

Model Types:	Classification, Object Detection, Anomaly Detection, Text Recognition
Extendable Performance:	Solutions of the necessary complexity can be deployed, from a simple inspection that can run >600ppm to large-scale multi-stage models for lower rate inspections
Open Architecture:	Deploy models trained using popular opensource frameworks or integrate 3rd party models
Data Integrity:	Ensure data integrity by deploying machine learning models in a 21 CFR Part 11 compliant method
Image Collection:	All vision solutions are designed to the highest standard of machine vision optical and system design to generate the best images for each application
Edge-based Platforms:	Available platforms to deploy appropriate AI on the edge (on premises)
Cloud-based Platforms:	Available platforms to deploy appropriate AI on the cloud and communicate from the factory floor
Support:	24/7/ongoing support for past integration and installation is available to continually improve the performance or adapt to part changes (ask about Illuminate)

BENEFITS

ATS vision solutions are built on a long history of machine vision experience to provide high-quality optical and system designs resulting in the best image sets and deployment architecture for each unique application. The addition of artificial intelligence offers powerful new tools to solve vision problems on the manufacturing floor. This includes the ability to perform inspections previously not possible, improve performance of traditional inspections, increase robustness of solutions, or reduce the time to fine tune solutions – especially in images with complex appearances or high variation. Artificial intelligence, when paired with the correct high-quality data, provides a tool to bridge the gap between what a human can see when inspecting a part or image, and what the vision system can detect.

Let's discuss your project in detail, contact us at lifesciences@atsautomation.com