Cogniac is a Silicon Valley based enterprise AI startup with a mission to improve the world by making it easy to automate visual observation tasks.

The Cogniac system uniquely combines the latest artificial intelligence research with human-computer interaction tools and large-scale data management in order to rapidly and automatically learn to identify what matters most to your business so you can take informed, timely and even automated action. Common visual observation tasks such as classifying, detecting, counting and measuring items and conditions can be automated with a high degree of reliability. Our easy drag-and-drop interface can help you create any observation workflows very quickly, with very little technical knowledge. The system is easily trainable and deployable within a short period of time. It works well with any visual data - like video streams from security cameras, or even archived images and video.

Cogniac has developed an elegant end-to-end architecture to enable the commercial deployment of deep convolutional neural networks in enterprise video and image analysis applications. We address the key challenges of data acquisition and management, model training, hyperparameter optimization, model deployment, and ongoing performance assessment. The system is designed with a ‘human in the loop’ to assist with difficult images, ensuring a high degree of accuracy and also enabling the system to improve over time as it is designed to actively query the relevant human experts within your organization and incorporate their quick visual feedback via a streamlined application interface.

Differentiators:

The following are the advantages of Cogniac over other solutions:

1. **Simple Drag & Drop User Interface:**

The Cogniac system is designed to be used by a non-technical user, ideally the person who best understands the image domain. The two primary system concepts of applications and subjects are very easy to learn and a user can be up and running with Cogniac in no time. Cogniac hides all of the complexity of computer vision and deep convolutional neural network models from the user so that the user can focus on the visual task at hand.

2. **Flexible & adaptable system**:

The Cogniac system generates **customized** deep convolutional network models for individual user applications based on example imagery and sparse user annotations or feedback. Once deployed, these application models can learn new characteristics, enabling continuous improvement and rapid adaptation to product changes. Existing archival imagery can also be used to very quickly create new visual applications all within the system.

3. **AI for Creating AI:**

The Cogniac system does not require manual intervention by data scientists or computer vision experts to create an application model. The Cogniac core learning engine is constantly searching for variations of deep convolutional model architecture, model configuration, training hyperparameters, automated data augmentation, and image preprocessing to find and continuously train optimal models for the user's specific application.

4. **Continuous Improvement, with human in the loop to minimize errors:**

Cogniac can operate in both a fully automatic mode as well as semi-automatic mode that enables human-in-the-loop workflows for the most difficult visual tasks. The Cogniac system continuously monitors the confidence level of every new prediction and uses the confidence level to prioritize feedback from users. Predictions which have the lowest confidence level are prioritized for user review and feedback. This "online active" method enables Cogniac applications to continuously improve while minimizing the amount of human time and attention required to achieve a given performance level target.

5. **Superior Technical Approach:**

The Cogniac system is based primarily on deep convolutional neural networks, which provide over 100x higher model capacity compared to previous computer vision approaches. This means that the applications models can absorb significantly higher levels of real-world image variance and provide application performance levels in the 90-99% range prior to any human corrections.

6. **Flexible deployment options:**

Cogniac supports multiple deployment options in the form of a Cloud solution, Gateway, On-prem and a hybrid solution of these options.