

Kavian Afzar Co.

Machine Vision System Integrator

The Company Profile, 2010

کاوین افزار
کارگاه رباتیک و ماشین‌بینایی

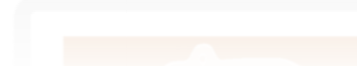
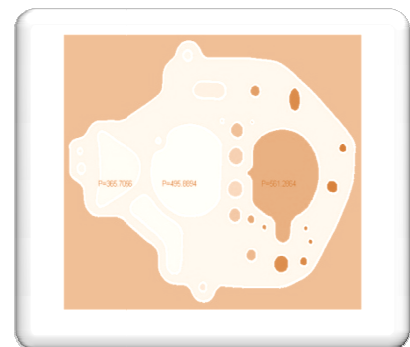
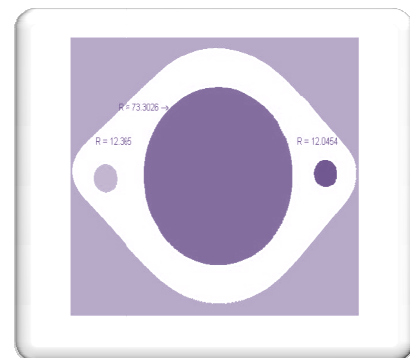
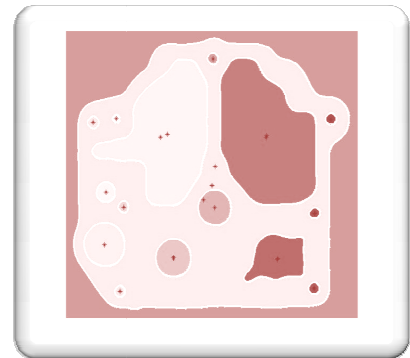


Introduction

Integrating expert and robotic systems in the different layers of industrial management and control systems have been the basic technical objectives of Kavian Afzar since 2004. The company has introduced Machine and Robot Vision Products and Solutions to more than 200 major production plants and factories in the region during these years. Moreover, since Robust Visual Target Tracking is one of the company's founders' professional backbones, they have designed and developed systems with intelligent embedded software kernels.

All of the products are equipped with the most precise and best known electro-optical instruments as the imaging sensors and devices of the systems. CCD Cameras are selected with dependable band width of SONY or KODAK sensors and connectivity in a multi-sensors network features, optical lenses are fixed with the specified features of glass materials and even digital controllers are installed with frequency response considerations. Relying on SIEMENS, KEYENCE and other famous technologies as electro-optical measuring sensors and digital controllers, Kavian Afzar can provide the reliable and robust test and measurement stations in an automated production line.

In spite of governmental policies that have limited the engineering businesses in private sectors, Kavian Afzar has introduced and developed the products and services during these years under international sanctions, global recessions and unique economic reforms in Iran. Until January 2011, the initial capital of Kavian Afzar Co. has grown to over 180% (regardless of inflation of the economy of the country).



Products

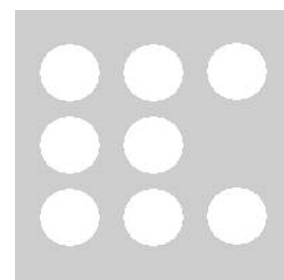
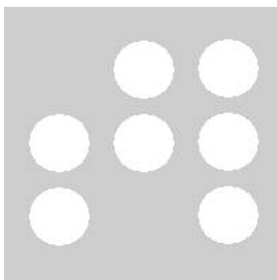
Based on Industrial Machines and Robots Vision, Kavian Afzar has developed the following software and systems:

Product Name	Title	Applications
KA-TRACKER-1081	Robust Visual Target Tracker	Robotics
KA-MVIS-1038	Machine Vision Inspection System	Automated Visual Inspection & Measurement
KA-PROBE-1808	Image Processing Utility	Photometry
KA-RV 2001	Integrated Robot Vision System	Upgrading Industrial Robots with Vision Modules
KA-LASER-3061	Laser Based Inspection System	NDT and Measurement
KA-VCT-4051	Video Content Tracker	Content-Based Image Retrieval, Target Tracking
KA-IRIS-4091	Infrared Inspection System	NDT, Condition Monitoring and Predictive Maintenance

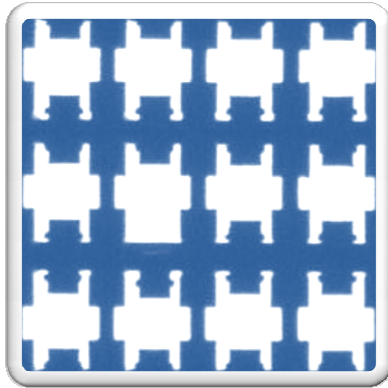
Machine Vision Inspection is a part of the products. Robot Vision to perceive the 3D structure of working space for handling, inspecting or performing an automated task is the other part of the products. So everything has been constructed on industrial production lines.

The company can drive the Mobile Robots for NDT or other general purposes with the vision equipment. Photometry and Videometry has their own libraries in the products. Machine Intelligence is another inseparable part in training or decision making libraries of products.

More information about the products has been presented in the company's website.

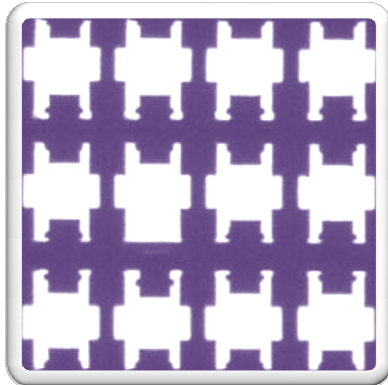


Advisory Systems



Detecting a defect in MV inspection systems reveals that there is a problem somewhere in the production line. Here, the PROBLEM is not a typical FAULT in production line. But the reasoning methods for problem solving, back in the production line, is like a fault detection and diagnosis approach to fault management. ASHALogic Advisory System is an expert system, to conduct the line or process supervisors to solve the production malfunctions.

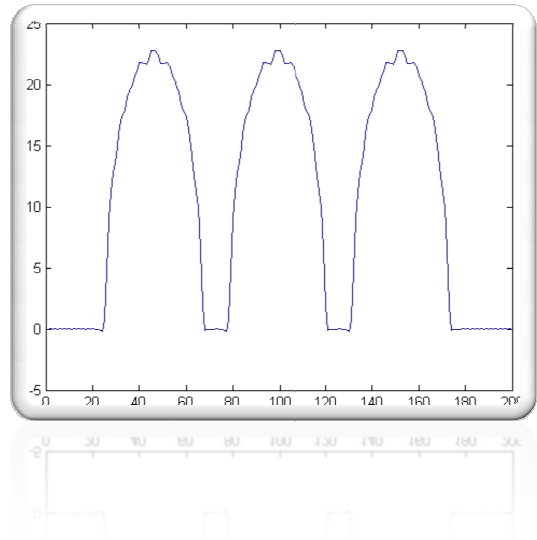
It is a multi-agent knowledge-based system. One or all of the model-based, rule-based and case-based reasoning subsystems interact with user interface layer at the top and fault diagnosis layer in the kernel of the system.



Each MV Inspection system can be equipped with an ASHALogic advisory system. Since it includes a model-based reasoning agent, Kavian Afzar offers it as an engineering service to its clients.

Memberships

Kavian Afzar has been a member of AIAC (Iran Association of Industrial Automation Companies) and SHCI (State's High Council of Informatics) during the past years. Because of its scientific and research oriented projects, the company has decided to be just the member of ISMVIP (Iran Society of Machine Vision and Image Processing) since 2010. ISMVIP is one the most scientific societies in the region and Kavian Afzar will try to pursue and observe the legislated regulations of this society.



Future Developments

The focus of future researches in the company will be on the Robot Vision. Mobile Robots have been observed recently and Multi-Robots in autonomous teams will be considered more seriously. Moreover, Kavian Afzar will improve its industrial test and measurement stations and will continue to make stronger its Target Tracking Software Libraries.