



# Video Behavior Detection

Patent Portfolio Offering

**More information available upon request and  
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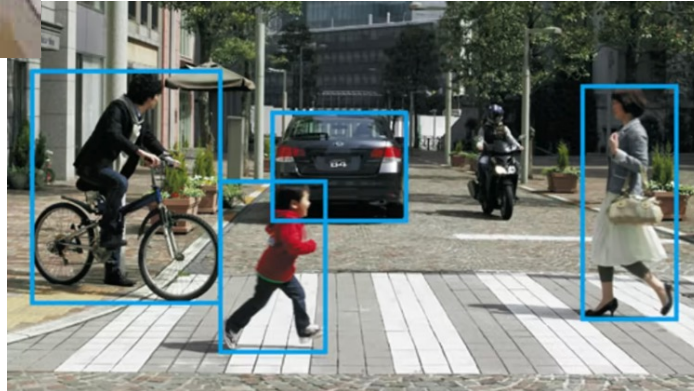
Traditional IP expertise.  
Cutting-edge software.  
Tangible market value.

## Opportunity:

To acquire 7 US patents



Crowds



Safety

Owned by Agilence, an operating company since 2006.

Patented technology includes:

- Identifying objects
- Tracking multiple objects
- Analyzing crowds

Applicable markets:

- Automobile safety
- Surveillance
- Crowd behavior
- People counting
- Target recognition

7 Patents

3 Families

Video Behavior Detection Portfolio

No Encumbrances

Early Priority Nov 2003



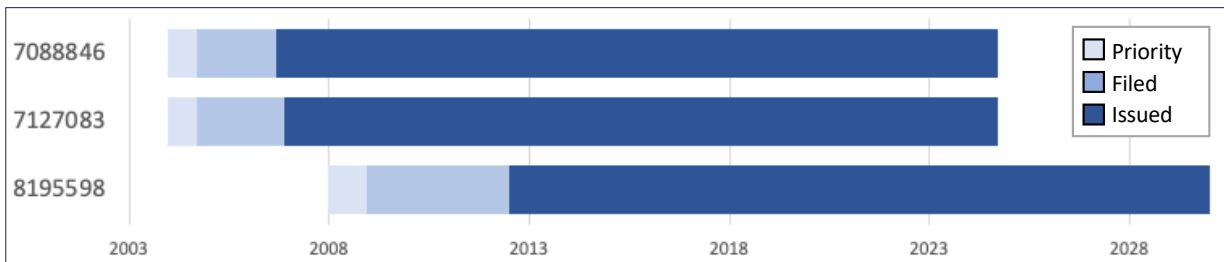
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**Portfolio:** 7 US patents in 3 families

Family	US Patent	Title
1	7088846	VIDEO SURVEILLANCE SYSTEM THAT DETECTS PREDEFINED BEHAVIORS BASED ON PREDETERMINED PATTERNS OF MOVEMENT THROUGH ZONES
	7127083	VIDEO SURVEILLANCE SYSTEM WITH OBJECT DETECTION AND PROBABILITY SCORING BASED ON OBJECT CLASS
	7136507	VIDEO SURVEILLANCE SYSTEM WITH RULE-BASED REASONING AND MULTIPLE-HYPOTHESIS SCORING
	7148912	VIDEO SURVEILLANCE SYSTEM IN WHICH TRAJECTORY HYPOTHESIS SPAWNING ALLOWS FOR TRAJECTORY SPLITTING AND/OR MERGING
	7499571	VIDEO SURVEILLANCE SYSTEM WITH RULE-BASED REASONING AND MULTIPLE-HYPOTHESIS SCORING
2	8195598	METHOD OF AND SYSTEM FOR HIERARCHICAL HUMAN/CROWD BEHAVIOR DETECTION
3	8649594	ACTIVE AND ADAPTIVE INTELLIGENT VIDEO SURVEILLANCE SYSTEM

7 active patents in 3 families

3 key patents in 2 families



7 Patents | 3 Families

**Video Behavior Detection Portfolio**

No Encumbrances | Early Priority Nov 2003



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## Portfolio:

7 US patents in 3 families

3 key patents in 2 families

	Crowds	Safety
US7088846	✓	✓
US7127083	✓	✓
US8195598	✓	

✓	Claim charts available
▶	Uncharted EOU

US 7,088,846

'**846** claim 14 describes a video surveillance system that generates alerts when identified objects move through defined zones.

US 7,127,083

'**083** claim 1 describes an object identification and tracking system using trajectories of multiple objects.

US 8,195,598

'**598** claim 1 describes techniques for analyzing crowd behavior using rules for audio and video characteristics.

7 Patents

3 Families

Video Behavior Detection Portfolio

No Encumbrances

Early Priority Nov 2003



Key Patent

US 7,088,846



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Key Patent:

US 7,088,846



US7088846 uses video data to generate a hypothesis including trajectories for moving objects. Alerts are issued based on the motion of an identified object between zones.

Estimated Expiry: 12 Aug 2024

- Claim 14.** A method for use in a video surveillance system, the method comprising:
- generating at least one hypothesis comprising a set of hypothesized trajectories of objects identified, based on their appearance, as being in a particular object class and hypothesized to have been moving through an area under surveillance at a particular time, said area under surveillance being divided into at least two zones;
  - utilizing said at least one of said hypotheses to determine whether at least one predefined alert condition has occurred within the area under surveillance, said at least one alert condition including: a predetermined pattern of movement of at least one of said objects relative to at least one of said zones, said predetermined pattern of movement including that a) said object was in a first one of said zones within said area under surveillance, and b) said object thereafter moved from said first one of said zones within said area under surveillance to a second one of said zones within said area under surveillance, and,
  - at least one time criterion, said at least one time criterion being that said object was in said second zone within said area under surveillance for more than a predetermined period of time.

Video Surveillance	
Company 1	✓
Company 2	✓
Company 3	✓
Company 4	▶
Company 5	▶
Company 6	▶
Company 7	▶
Company 8	▶
Company 9	▶

✓	Claim charts available
▶	Uncharted EOU

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CLAIM CHARTS  
AVAILABLE UPON  
REQUEST

7 Patents	3 Families
Video Behavior Detection Portfolio	
No Encumbrances	Early Priority Nov 2003



Key Patent

US 7,127,083



Traditional IP expertise.  
Cutting-edge software.  
Tangible market value.



**Claim 1.** A method for use in a video surveillance system in which is generated at least a first set of trajectories of a first set of objects of a particular object class hypothesized to have been moving through an area under surveillance at a previous point in time, the method comprising:

- o identifying objects of said particular class hypothesized to be in said area under surveillance at a current point in time, said particular class of objects being distinguishable from other objects based on the physical appearance of the objects of said particular class, at least one of said objects in said area under surveillance at said current point in time being identified independent of the physical appearance of any objects hypothesized to have been in said area under surveillance at said previous point in time, said identifying including analyzing individual portions of a video image of said area under surveillance to determine if said portions have features that are characteristic of objects in said particular class;
- o extending at least ones of said first set of trajectories to at least ones of said identified objects to develop at least one set of extended trajectories, each of at least ones of said extended trajectories being a respective one of said first set of trajectories extended to at least one of the identified objects, and;
- o selecting, as an individual one of said portions, a portion of said video image that is selected independent of whether that portion is in the foreground of said video image.

Key Patent:

US 7,127,083

Estimated Expiry: 12 Aug 2024

US7127083 describes an object classification and tracking system to analyze the trajectories of multiple moving objects.

Auto Safety Systems	
Company 1	✓
Company 2	✓
Company 3	✓
Company 4	▶
Company 5	▶
Company 6	▶
Company 7	▶

✓	Claim charts available
▶	Uncharted EOU

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CLAIM CHARTS  
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Video Behavior Detection Portfolio	
No Encumbrances	Early Priority Nov 2003





Key Patent

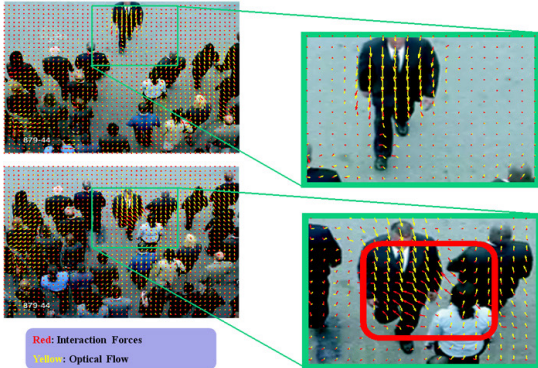
US 8,195,598



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Key Patent:

US 8,195,598



US8195598 describes techniques for analyzing crowd behavior using configurable rules using crowd characteristics generated from audio and video data.

Estimated Expiry: 11 Jan 2031

**Claim 1.** A computer automated method of selectively identifying a behavior of a crowd comprising the steps:

- o receiving video data of a crowd;
- o receiving audio data corresponding to an environment around the crowd;
- o processing audio data thereby identifying audio characteristics;
- o generating hierarchical human and crowd feature data from the video data; and;
- o selectively identifying a behavior of the crowd by processing the hierarchical human and crowd feature data according to a configurable behavior rule wherein the processing is configured to select a behavior wherein selectively identifying a behavior utilizes the identified audio characteristics.

Crowd Behavior	
Company 1	✓
Company 2	▶
Company 3	▶
Company 4	▶
Company 5	▶

✓	Claim charts available
▶	Uncharted EOU

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## Wrap Up:

## Transaction Details

Seller prefers an all-cash transaction.

Willing to consider alternative offers.

Prefers to divest the entire portfolio.

Seller aims to close on transaction in Q4 2022.

7 Patents

3 Families

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No Encumbrances

Early Priority Nov 2003