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- (71) **Applicant (for all designated States except US):**
HEALTH DISCOVERY CORPORATION [US/US]; 2
East Bryan Street, Suite 601, Savannah, Georgia 31401
(US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** **ZHANG, Hong** [US/
US]; 22 Black Hawk Trail, Savannah, Georgia 31411
(US).
- (74) **Agent:** **MUSICK, Eleanor M.**; Procopio, Cory, Harg-
reaves & Savitch, LLP, 530 B Street, 21st Floor, San
Diego, California 92101 (US).
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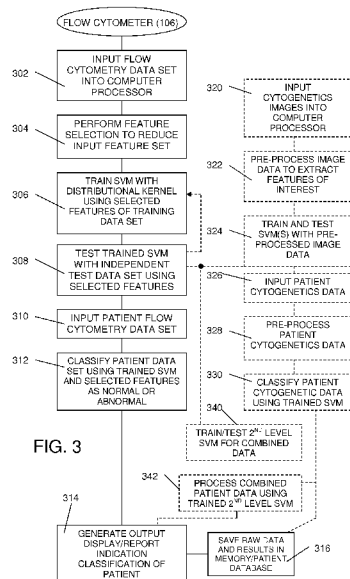
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(54) **Title:** METHOD AND SYSTEM FOR ANALYSIS OF FLOW CYTOMETRY DATA USING SUPPORT VECTOR MA-
CHINES



(57) **Abstract:** An automated method and system are provided for receiving an input of flow cytometry data and analyzing the data using one or more support vector machines to generate an output in which the flow cytometry data is classified into two or more categories. The one or more support vector machines utilizes a kernel that captures distributional data within the input data. Such a distributional kernel is constructed by using a distance function (divergence) between two distributions. In the preferred embodiment, a kernel based upon the Bhattacharyya affinity is used. The distributional kernel is applied to classification of flow cytometry data obtained from patients suspected having myelodysplastic syndrome.

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A. CLASSIFICATION OF SUBJECT MATTER*G01N 33/50(2006.01)i, G06F 17/50(2006.01)i, G06F 17/40(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC : G01N, G06F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal), "analysis and classification of flow cytometry data"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,882,990 B1 (STEPHEN BARNHILL et al.) 19 April 2005. see abstract, Fig. 1, and claims 1-17	1-18
A	Michael R. Loken et al., "Flow cytometry in myelodysplastic syndromes: Report from a working conference", ScienceDirect Leukemia Research 32 (2008) 5-17, Available online 18 June 2007. see abstract and chapter 3-4	1-18
A	Tony Jebara and Risi Kondor, "Bhattacharyya and Expected Likelihood Kernels", LNCS 2777, pp.57-71, 2003. see abstract and chapter 2-5	1-18

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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