

Patents Citing Fionn Murtagh's Work on: Clustering

(1)

Factor analysis/retail data mining segmentation in a data mining system
United States Patent 7069197

Abstract:

A computer-implemented data mining system that analyzes customer transaction data using Factor Analysis/Retail Data Mining Segmentation. The data is accessed from a relational database, and then a factor analysis function is performed on the data to create a factor loadings matrix that has factors as columns and observed variables from the customer transaction data as rows, wherein each of the observed variables is assigned to one of the factors in the factor loadings matrix that has the maximum value for the row. New variables are derived by means of a factor-scoring method that combines the variables into the factors in the factor loadings table. Customer destination segments are identified from the relational database using the factors. Additional customer destination segments are identified by means of a clustering tool using the derived new variables.

Inventor: Saidane, Hassine (San Diego, CA, US)

Publication Date: 06/27/2006

Filing Date: 10/25/2001

Assignee: NCR Corp. (Dayton, OH, US)

From Other References:

F. Murtagh, "A Survey of Recent Advances in Hierarchical Clustering Algorithms,"
The Computer Journal, 26(4):354-359, 1983.

(2)

Analysis of retail transactions using gaussian mixture models in a data mining system
United States Patent 6947878

Abstract:

A computer-implemented data mining system that analyzes data using Gaussian Mixture Models. The data is accessed from a database, and then an Expectation-Maximization (EM) algorithm is performed in the computer-implemented data mining system to create the Gaussian Mixture Model for the accessed data. The EM algorithm generates an output that describes clustering in the data by computing a mixture of probability distributions fitted to the accessed data.

Inventors:

Bisgaard-b, Hr Mikael (Hellerup, DK)

Cunningham, Scott Woodroofe (Mountain View, CA, US)

Publication Date: 09/20/2005

Filing Date: 12/18/2000

Assignee: NCR Corporation (Dayton, OH, US)

From Other References:

F. Murtagh, "A Survey of Recent Advances in Hierarchical Clustering Algorithms,"
The Computer, Journal, 26(4):354-359, 1983.

CROSS REFERENCE TO RELATED APPLICATIONS

This application is related to the following co-pending and commonly assigned patent applications:

Application Ser. No. 09/739,993, filed on same date herewith, by Paul M. Cereghini and Scott W. Cunningham, and entitled "ARCHITECTURE FOR A DISTRIBUTED RELATIONAL DATA MINING SYSTEM,"

Application Ser. No. 09/740,119, filed on same date herewith, by Scott W. Cunningham, and entitled "IMPROVEMENTS TO GAUSSIAN MIXTURE MODELS IN A DATA MINING SYSTEM,"

Application Ser. No. 09/739,994, filed on same date herewith, by Mikael Bisgaard-Bohr and Scott W. Cunningham, and entitled "DATA MODEL FOR ANALYSIS OF RETAIL TRANSACTIONS USING GAUSSIAN MIXTURE MODELS IN A DATA MINING SYSTEM,"

all of which applications are incorporated by reference herein.

(3)

System for extracting knowledge of typicality and exceptionality from a database of case records

United States Patent 5325466

Abstract:

A knowledge tree building system iteratively partitions a database of case records into a tree of conceptually meaningful clusters. Each cluster is automatically assigned a unique conceptual meaning in accordance with its unique pattern of typicality and exceptionality within the knowledge tree; no prior domain-dependent knowledge is required. The system fully utilizes all available quantitative and qualitative case record data. Knowledge trees built by the system are particularly

well suited for artificial intelligence applications such as pattern classification and nonmonotonic reasoning.

Inventor: Kornacker, Karl (Columbus, OH)
Publication Date: 06/28/1994
Filing Data: 05/07/1992
Assignee: Perceptive Decision Systems, Inc. (Columbus, OH)

From Other References:

Murtagh, Fionn D., "Cluster Analysis Using Proximities," Chapter 9, pp. 225-245, 1993.

[Fionn comment: this is a legitimate citation but only very partially indicated.]

(4)

Architecture for distributed relational data mining systems
United States Patent 6687693

Abstract:

A computer-implemented data mining system includes an Interface Tier, an Analysis Tier, and a Database Tier. The Interface Tier supports interaction with users, and includes an On-Line Analytic Processing (OLAP) Client that provides a user interface for generating SQL statements that retrieve data from a database, and an Analysis Client that displays results from a data mining algorithm. The Analysis Tier performs one or more data mining algorithms, and includes an OLAP Server that schedules and prioritizes the SQL statements received from the OLAP Client, an Analytic Server that schedules and invokes the data mining algorithm to analyze the data retrieved from the database, and a Learning Engine performs a Learning step of the data mining algorithm. The Database Tier stores and manages the databases, and includes an Inference Engine that performs an Inference step of the data mining algorithm, a relational database management system (RDBMS) that performs the SQL statements against a Data Mining View to retrieve the data from the database, and a Model Results Table that stores the results of the data mining algorithm.

Publication Date: 02/03/2004
Filing Date: 12/18/2000
Assignee: NCR Corporation (Dayton, OH)

From Other References:

F. Murtagh, "A Survey of Recent Advances in Hierarchical Clustering Algorithms," The Computer Journal, 26(4):354-359, 1983.

CROSS REFERENCE TO RELATED APPLICATIONS

This application is related to the following co-pending and commonly assigned patent applications:

Pending application Ser. No. 09/739,491, filed on same date herewith, by Mikael Bisgaard-Bohr and Scott W. Cunningham, and entitled "ANALYSIS OF RETAIL TRANSACTIONS USING GAUSSIAN MIXTURE MODELS IN A DATA MINING SYSTEM,";

Pending application Ser. No. 09/739,994 filed on same date herewith, by Mikael Bisgaard-Bohr and Scott W. Cunningham, and entitled "DATA MODEL FOR ANALYSIS OF RETAIL TRANSACTIONS USING GAUSSIAN MIXTURE MODELS IN A DATA MINING SYSTEM,"; and

application Ser. No. 09/740,119 filed on same date herewith, by Scott W. Cunningham, and entitled "IMPROVEMENTS TO GAUSSIAN MIXTURE MODELS IN A DATA MINING SYSTEM,";

all of which applications are incorporated by reference herein.

(5)

Method and system for data clustering for very large databases
United States Patent 5832182

Abstract:

Multi-dimensional data contained in very large databases is efficiently and accurately clustered to determine patterns therein and extract useful information from such patterns. Conventional computer processors may be used which have limited memory capacity and conventional operating speed, allowing massive data sets to be processed in a reasonable time and with reasonable computer resources. The clustering process is organized using a clustering feature tree structure wherein each clustering feature comprises the number of data points in the cluster, the linear sum of the data points in the cluster, and the square sum of the data points in the cluster. A dense region of data points is treated collectively as a single cluster, and points in sparsely occupied regions can be treated as outliers and removed from the clustering feature tree. The clustering can be carried out continuously with new data points being received and processed, and with the clustering feature tree being restructured as necessary to accommodate the information from the newly received data points.

Inventors:

Zhang, Tian (Madison, WI)
Ramakrishnan, Raghu (Madison, WI)
Livny, Miron (Madison, WI)

Publication Date: 11/03/1998

Filing Date: 04/24/1996

Asignee: Wisconsin Alumni Research Foundation (Madison, WI)

From Other References:

F. Murtagh, "A Survey of Recent Advances in Hierarchical Clustering Algorithms,"
The Computer Journal, 1983, pp. 354-359.

(6)

Single-pass low-storage arbitrary probabilistic location estimation for massive data sets

United States Patent 7076487

Abstract:

The present invention includes a method and system for providing an estimate of a summary of a data set generated by an unknown distribution. The method includes selecting a subset of data points from the data set, applying a scoring rule to each data point of the subset of data points based on an estimated relative location and an assigned weight for each data point to provide a score for each data point, selectively retaining data points to track based on the score for each data point; and determining an estimate of the summary of the data set based on the retained data points.

Inventors:

Liechty, John C. (State College, PA, US)

Mcdermott, James P. (State College, PA, US)

Lin, Dennis K. J. (State College, PA, US)

Publication Date: 07/11/2006

Filing Date: 04/11/2002

Assignee: The Penn State Research Foundation (University Park, PA, US)

From Other References:

Murtagh (Eds.), Proceedings of SPIE, vol. 4847 (2002), pp. 228-237.

PRIORITY STATEMENT

This application claims priority to U.S. application Ser. No. 60/283,003, filed on Apr. 11, 2001, herein incorporated by reference in its entirety.

(7)

Text mining system for web-based business intelligence

United States Patent 7315861

Abstract:

A text mining system for collecting business intelligence about a client, as well as for identifying prospective customers of the client, for use in a lead generation system

accessible by the client via the Internet. The text mining system has various components, including a data acquisition process that extracts textual data from various Internet sources, a database for storing the extracted data, a text mining server that executes query-based searches of the database, and an output repository. A web server provides client access to the repository, and to the mining server.

Inventors:

Seibel, John C. (Austin, TX, US)
Feng, Yu (Maplewood, NJ, US)
Foster, Robert L. (Austin, TX, US)

Publication Date: 01/01/2008

Filing Date: 07/11/2005

Assignee: ReachForce, Inc.

From Other References:

Murtagh, Fionn, "Distributed Information Search and Retrieval for Astronomical Resource Discovery and Data Mining", Library and Information Services in Astronomy III, ASP Conference Series, vol. 153, 1998, pp. 51-60, 1998.

(8)

Web-based customer lead generator system with pre-emptive profiling
United States Patent 7275083

Inventors:

Seibel, John C. (Austin, TX, US)
Feng, Yu (Bayside, NY, US)
Foster, Robert L. (Austin, TX, US)

Publication Date: 09/25/2007

Filing Date: 03/13/2006

Assignee: ReachForce, Inc. (Austin, TX, US)

From Other References:

Fionn Murtagh; "Distributed information search and retrieval for astronomical resource discovery and data mining"; Library and information services in Astronomy III ASP conference series; 1998; vol. 153; pp. 51-60.

(9)

Text indexing system to index, query the archive database document by keyword data representing the content of the documents and by contact data associated with the participant who generated the document
United States Patent 7082427

Abstract:

Text indexing system for collecting business intelligence about a client, as well as for identifying prospective customers of the client, for use in a lead generation system accessible by the client via the Internet. The text indexing system has various components, including a data acquisition process that extracts textual data from various Internet sources, a database for storing the extracted data, a text indexing server that executes keyword searches of the database, and an output repository. A web server provides client access to the repository, and to the indexing server.

Inventors:

Seibel, John C. (Austin, TX, US)
Feng, Yu (Maplewood, NJ, US)
Foster, Robert L. (Austin, TX, US)

Publication Date: 07/25/2006

Filing Date: 05/24/2001

Assignee: ReachForce, Inc. (Austin, TX, US)

From Other References:

Murtagh, Fionn, "Distributed Information Search and Retrieval for Astronomical Resource Discovery and Data Mining", Library and Information Services in Astronomy III, ASP Conference Series, vol. 153, 1998, pp. 51-60.

(10)

Text mining system for web-based business intelligence applied to web site server logs
United States Patent 7330850

Abstract:

A text mining system for collecting business intelligence about a client, as well as for identifying prospective customers of the client, for use in a lead generation system accessible by the client via the Internet. The text mining system has various components, including a data acquisition process that extracts textual data from Internet web sites, including their logs, content, processes, and transactions. The system compares log data to content and process data, and relates the results of the comparison to transaction data. This permits the system to provide aggregate cluster data representing statistics useful for customer lead generation.

Inventors:

Seibel, John C. (Austin, TX, US)

Feng, Yu (Maplewood, NJ, US)
Foster, Robert L. (Austin, TX, US)

Publication Date: 02/12/2008
Filing Date: 10/04/2001
Assignee: ReachForce, Inc. (Austin, TX, US)

From Other References:
Murtagh, Fionn, "Distributed Information Search and Retrieval for Astronomical Resource Discovery and Data Mining", Library and Information Services in Astronomy III, ASP Conference Series, vol. 153, 1998, pp. 51-60.

(11)

Prospects harvester system for providing contact data about customers of product or service offered by business enterprise extracting text documents selected from newsgroups, discussion forums, mailing lists, querying such data to provide customers who confirm to business profile data

United States Patent 7120629

Inventors:
Seibel, John C. (Austin, TX, US)
Feng, Yu (Maplewood, NJ, US)
Foster, Robert L. (Austin, TX, US)

Publication, Filing Dates:
10/10/2006, 05/24/2001

Assignee: ReachForce, Inc. (Austin, TX, US)

From Other References:
Fionn Murtagh, "Distributed information search and retrieval for astronomical resource discovery and data mining", Library and information services in Astronomy III ASP conference series, vol. 153, 1998, pp. 51-60.

Some others follow briefly (from Google Patents).

(12)

[APPLICATION] ADVERTISING-BUYING OPTIMIZATION METHOD, SYSTEM,
AND APPARATUS
US Pat. 12239327 - Filed Sep 26, 2008 -
SMART CHANNEL, L.L.C.

... be preferred (See for example "Complexities of Hierarchic Clustering Algorithms: State of the Art" by F. Murtagh, Computational Statistics Quarterly, "...

(13)

[APPLICATION] COMPUTER SYSTEMS AND METHODS FOR HIERARCHICAL CLUSTER ANALYSIS OF LARGE SETS ...

US Pat. 9397380 - Filed Sep 15, 1999

... based on Fortran code written by F. Murtagh and found in Statlib from the R "statistical package. ...

(14), (15), (16), (17), (18)

Citation:

Fionn Murtagh. Correspondence Analysis and Data Coding with JAVA and R. Chapman & Hall/CRC, Boca Raton, FL, 2005. ISBN 1-584-88528-9

Cited in EPO Patent Application under WIPO,

METHOD OF INHIBITING EXPRESSION OF TARGET MRNA USING SIRNA CONSISTING OF NUCLEOTIDE SEQUENCE COMPLEMENTARY TO SAID TARGET MRNA

Status: Examination is in progress, *Database last updated on 11.02.2011*

Publication number:	WO2006062369 (A1)
Publication date:	2006-06-15
Inventor(s):	CHOI YOUNG-CHUL [KR]; PARK HAN OH [KR]; CHOUNG SORIM [KR]; KIM YOUNG JOO [KR]; KIM SANG SOO [KR]; PARK SEONG-MIN [KR]; KIM SANG-CHEOL [KR]; YOON GYUMAN [KR]; CHOI KYOUNG OAK [KR]; KANG HYO JIN [KR] +
Applicant(s):	BIONEER CORP [KR]; CHOI YOUNG-CHUL [KR]; PARK HAN OH [KR]; CHOUNG SORIM [KR]; KIM YOUNG JOO [KR]; KIM SANG SOO [KR]; PARK SEONG-MIN [KR]; KIM SANG-CHEOL [KR]; YOON GYUMAN [KR]; CHOI KYOUNG OAK [KR]; KANG HYO JIN [KR] +

Classification:

- international: **C12Q1/68; C12Q1/68**
- European: [C12N15/113](#); [C12N15/11M](#); [G06F19/18](#)
Application number: WO2005KR04207 20051208
Priority number(s): KR20040103283 20041208

Cited in US PTO Application,

METHOD OF INHIBITING EXPRESSION OF TARGET MRNA USING SIRNA CONSISTING OF NUCLEOTIDE SEQUENCE COMPLEMENTARY TO SAID TARGET MRNA

Publication number: US2009155904 (A1)
Publication date: 2009-06-18
Inventor(s): CHOI YOUNG-CHUL [KR]; PARK HAN OH [KR]; CHOUNG SORIM [KR]; KIM YOUNG JOO [KR]; KIM SANG SOO [KR]; PARK SEONG-MIN [KR]; KIM SANG-CHEOL [KR]; YOON GYUMAN [KR]; CHOI KYOUNG OAK [KR]; KANG HYO JIN [KR] +
Applicant(s): BIONEER CORP [KR] +

Classification:

- international: **C12N5/02; C12N5/02**
- European: [C12N15/113](#); [C12N15/11M](#); [G06F19/18](#)
Application number: US20050721303 20051208
Priority number(s): KR20040103283 20041208; WO2005KR04207 20051208

Cited in Korean Patent Application,

METHOD OF INHIBITING EXPRESSION OF TARGET MRNA USING SIRNA CONSISTING OF NUCLEOTIDE SEQUENCE COMPLEMENTARY TO SAID TARGET MRNA

Publication number: KR20070094601 (A)
Publication date: 2007-09-20
Inventor(s): CHOI YOUNG CHUL [KR]; PARK HAN OH [KR]; CHOUNG SO RIM [KR]; KIM YOUNG JOO [KR]; KIM SANG SOO [KR]; PARK SEONG MIN [KR];

Applicant(s): KIM SANG CHEOL [KR]; YOON GYU MAN [KR];
Classification: CHOI KYOUNG OAK [KR]; KANG HYO JIN [KR] +
- international: BIONEER CORP [KR] +
- European: C12Q1/68; C12Q1/68
C12N15/113; C12N15/11M; G06F19/18
Application number: KR20077012736 20070605
Priority number(s): KR20040103283 20041208

Cited in Japanese Patent Application,

METHOD OF INHIBITING EXPRESSION OF TARGET MRNA USING SIRNA
CONSISTING OF NUCLEOTIDE SEQUENCE COMPLEMENTARY TO SAID
TARGET MRNA

Publication number: JP2008522613 (T)
Publication date: 2008-07-03
Inventor(s):
Applicant(s):
Classification:
- international: A61K31/7088; A61K48/00; C12N15/09; A61K31/7088; A61K48/00;
C12N15/09
- European: C12N15/113; C12N15/11M; G06F19/18
Application number: JP20070545384T 20051208
Priority number(s): KR20040103283 20041208; WO2005KR04207 20051208

Cited in Chinese Patent Application,

METHOD OF INHIBITING EXPRESSION OF TARGET MRNA USING SIRNA
CONSISTING OF NUCLEOTIDE SEQUENCE COMPLEMENTARY TO SAID
TARGET MRNA

Publication number: CN101120099 (A)
Publication date: 2008-02-06
Inventor(s): OH PARK HAN [KR]; SORIM CHOUNG [KR]; JOO KIM YOUNG [KR]
SOO KIM SANG [KR]; GYUMAN YOON [KR]; OAK CHOI KYOUNG [I
JIN KANG HYO [KR] +

Applicant(s): BIONEER CORP [KR] +
Classification:
- international: **C12Q1/68**
- European: C12N15/113; C12N15/11M; G06F19/18
Application number: CN20058047832 20051208
Priority number(s): WO2005KR04207 20051208; KR20040103283 20041208

(19)

The following EPO patent application was withdrawn in 2002:

LINE OBJECT VECTORIZATION IN COLOUR/GRAYSCALE IMAGES

It cited F. Murtagh, Multidimensional Clustering Algorithms, Physica-Verlag, 1985.

Publication number: WO0016264 (A1)
Publication date: 2000-03-23
Inventor(s): WU JIAN KANG [SG]; ZHANG WEIMING [SG]; LI YIQUN [SG]; DONG ZIQIANG [SG] +
Applicant(s): KENT RIDGE DIGITAL LABS [SG]; WU JIAN KANG [SG]; ZHANG W [SG]; LI YIQUN [SG]; DONG ZIQIANG [SG] +
Classification:
- international: **G06K9/00; G06K9/46; G06T5/00;** (IPC1-7): G06T5/00
- European: G06K9/00T; G06K9/00V1; G06K9/46A3; G06T7/00S2
Application number: WO1998SG00072 19980916
Priority number(s): WO1998SG00072 19980916
