The Heavens Declare the Glory of God

Psalm 19:1-4

1 The heavens declare the glory of God;
the skies proclaim the work of his hands.

2 Day after day they pour forth speech;
night after night they reveal knowledge.

3 They have no speech, they use no words;
no sound is heard from them.

4 Yet their voice goes out into all the earth,

Outline

- My career as a Scientist,
  making small but useful discoveries from data
- Is Science the enemy of Faith?
- Our world is a garden in a vast, hostile desert
- The “God hypothesis” best explains the data
- Findings of science help reveal the mind, arm, and *heart* of God

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DATA MINING & PREDICTIVE ANALYTICS

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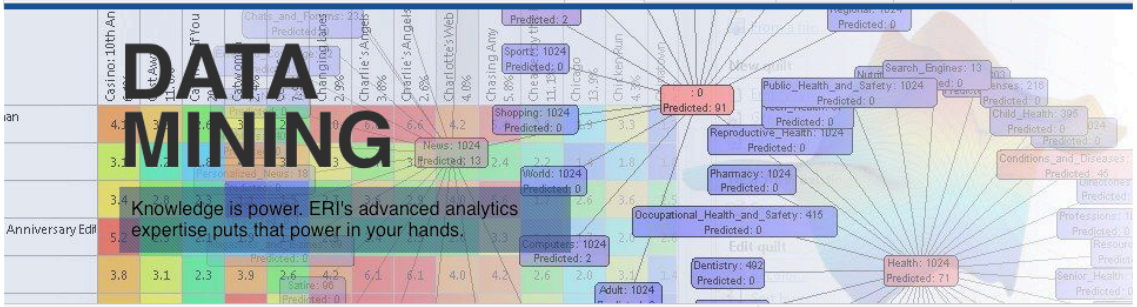

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We specialize in unlocking the potential of vast stores of information to provide actionable, comprehensible results. ERI specializes in:

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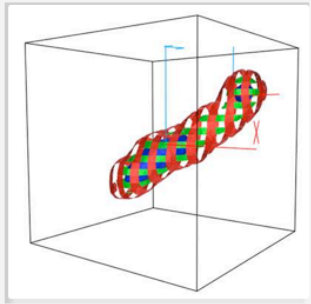
- Text Mining
- Data Visualization
- Defense and Intelligence
- Investment Modeling
- Software Engineering
- Fraud Detection



UPCOMING EVENTS

MIKE THURBER WILL TEACH 3 DAY COURSE IN SAN FRANCISCO FEB. 9-11

Mike Thurber will be teaching a 3 day course entitled **Data Mining: Principles and Best Practices** in San Francisco February 9-11, 2015.

JOHN ELDER WILL SPEAK AT PAW WORKFORCE, MARCH 31

JOHN ELDER IS A PLENARY SPEAKER AT PAW SAN FRANCISCO, APRIL 1

JOHN ELDER WORKSHOP AT PAW SAN FRANCISCO, APRIL 2

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NEWS

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JOHN ELDER QUOTED IN ECONTENT MAGAZINE

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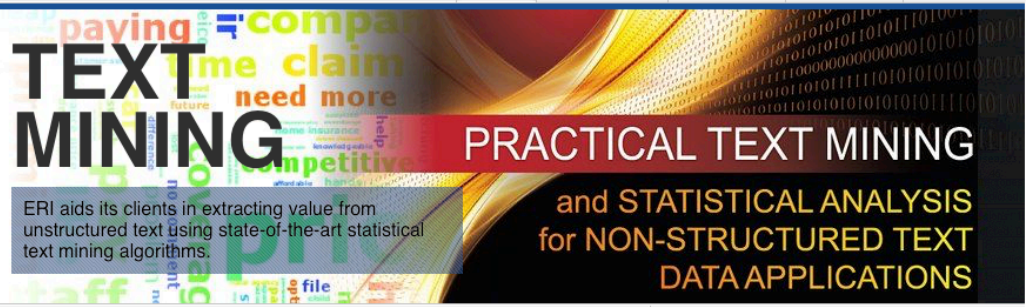

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Our staff has published many journal articles, written dissertations, presented at dozens of conferences, delivered training seminars to businesses and universities, and even spoken about data mining at the occasional middle school career day. As part of our ongoing initiative to train both students and corporations on advanced analytics, we have made several of these documents available on our website. To see a full listing of available documents, click the link below.

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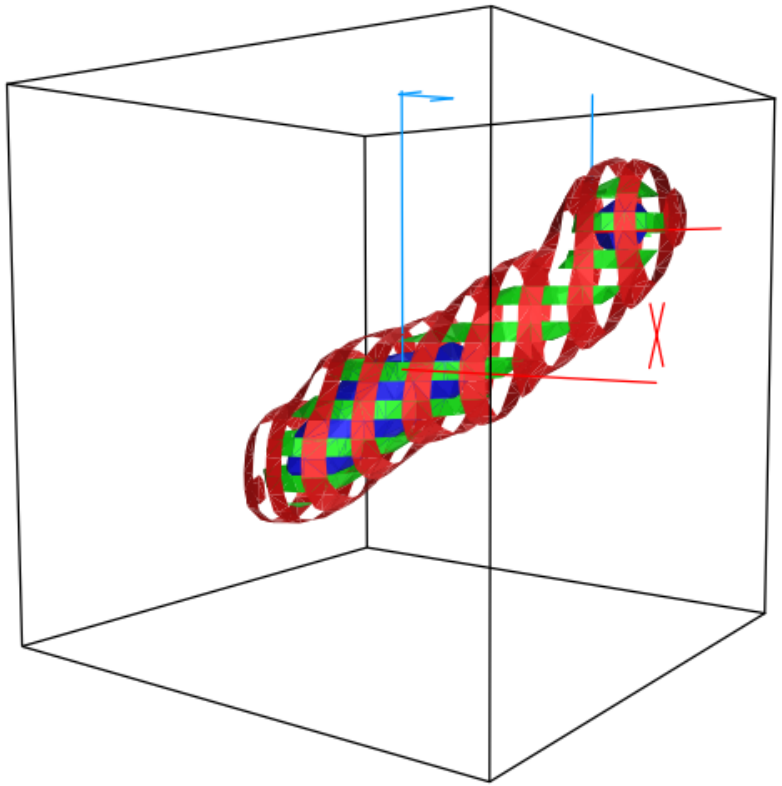
Oil and Gas Exploration

Drug Discovery

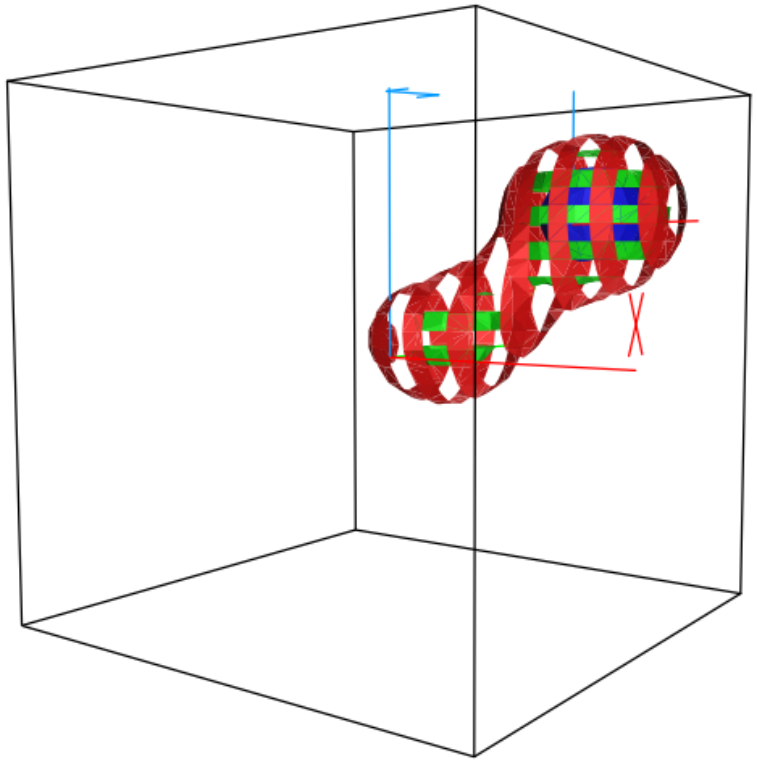
Pharmacia & Upjohn (now Pfizer)

New Compound an Effective Treatment?

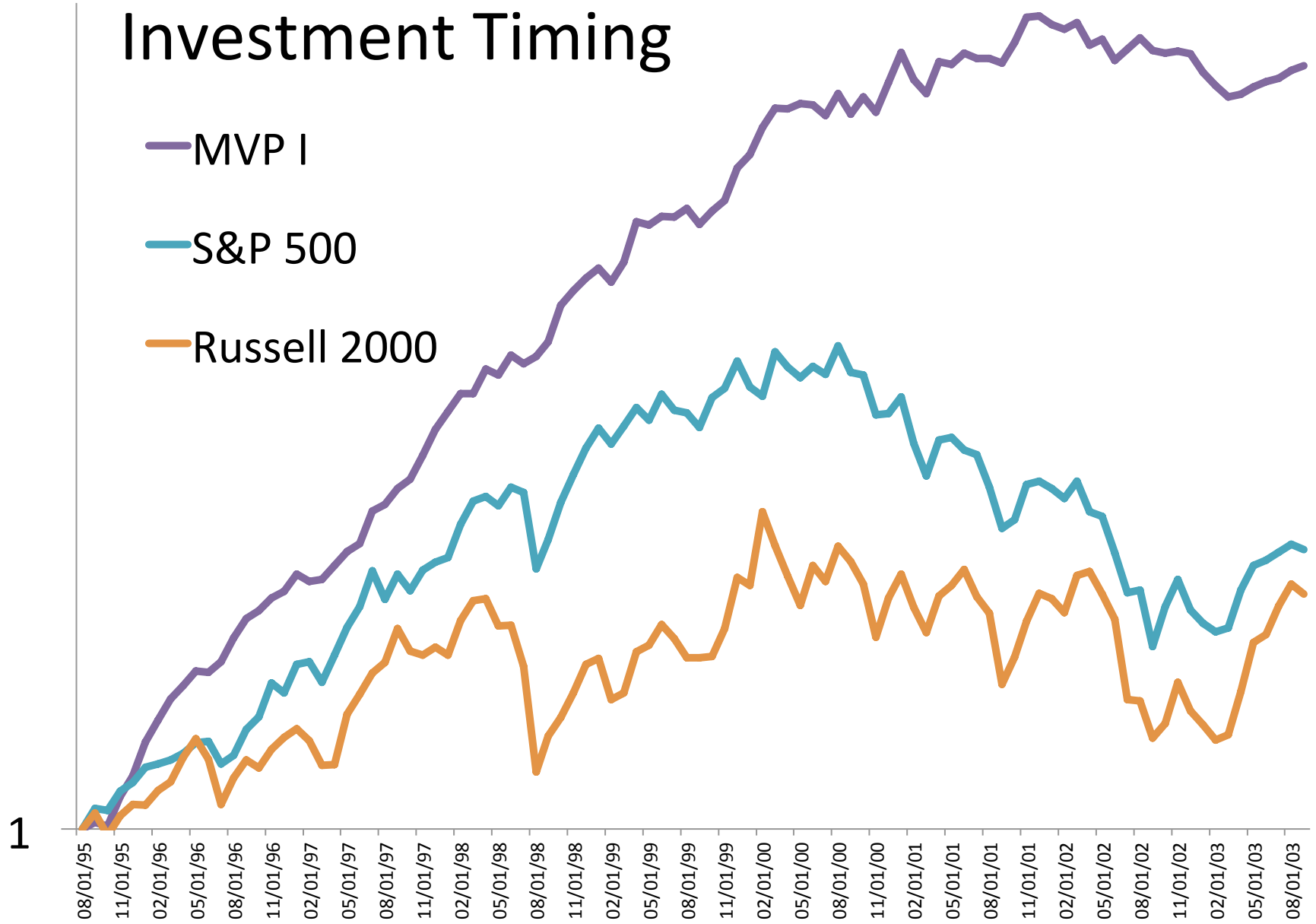
Placebo



Drug



Density surfaces enclose ascending quartiles of data


Investment Timing
MVP I
S&P 500
Russell 2000
1
08/01/95
11/01/95
02/01/96
05/01/96
08/01/96
11/01/96
02/01/97
05/01/97
08/01/97
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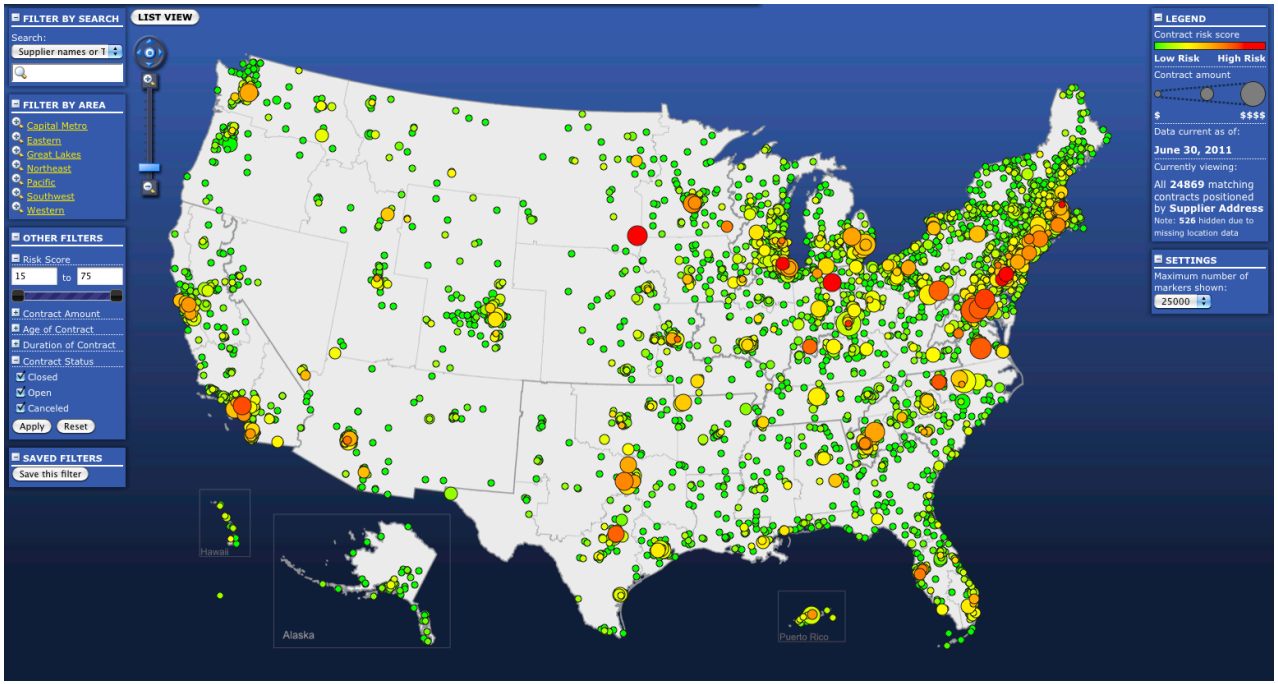
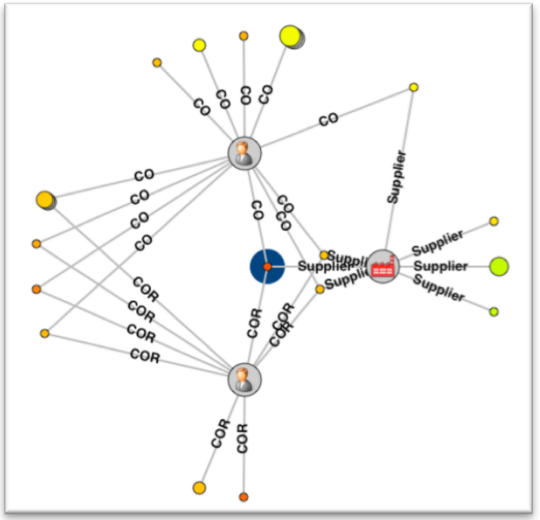
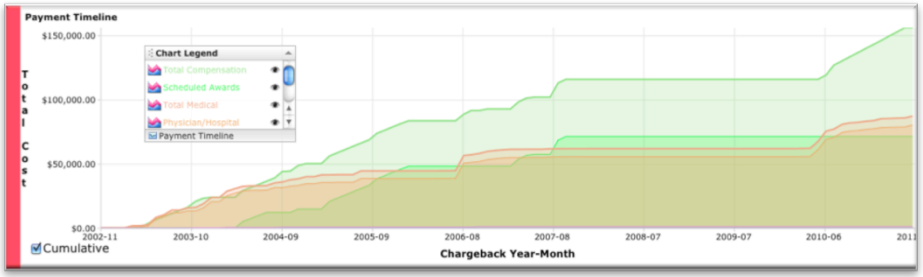
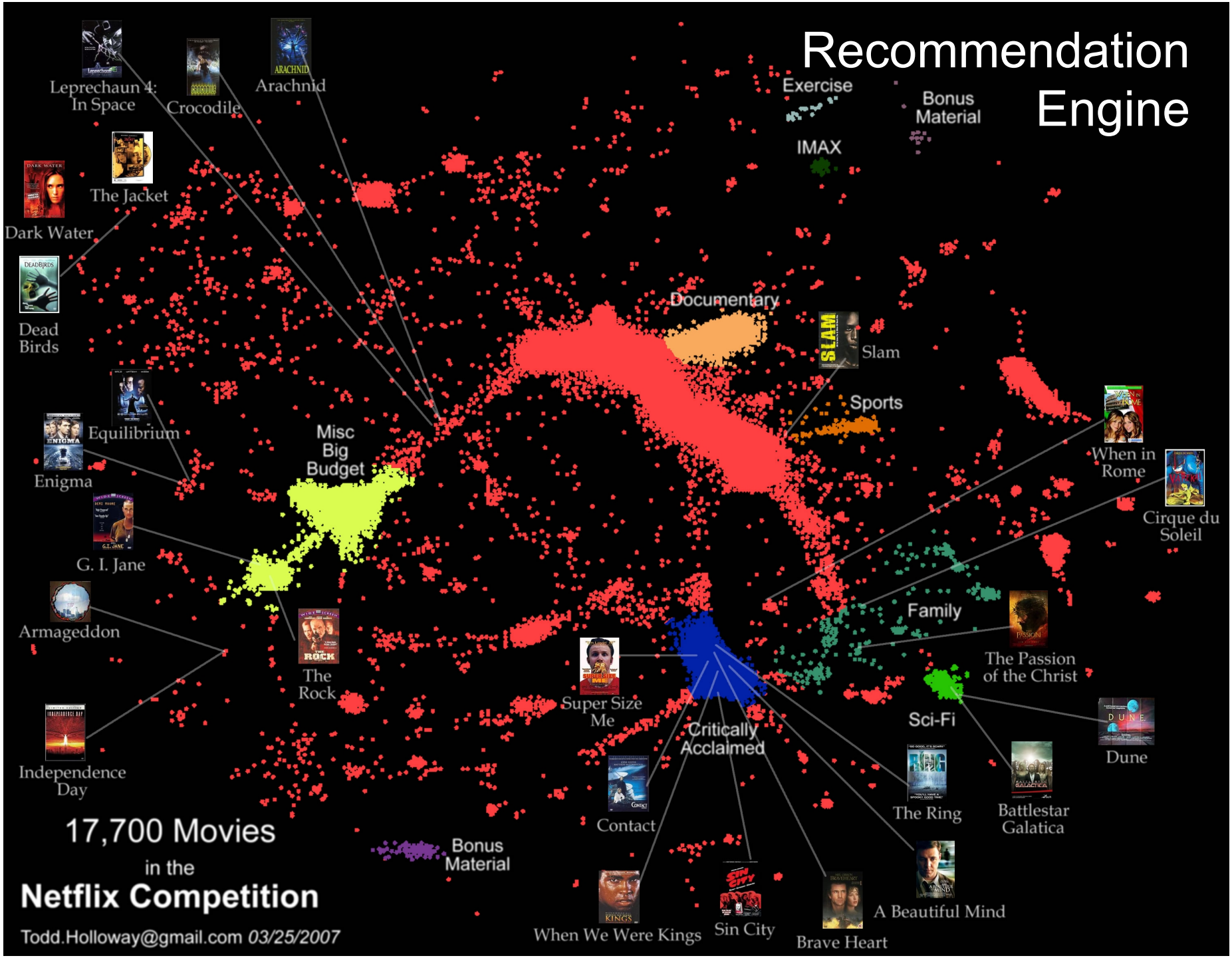
Fraud Detection

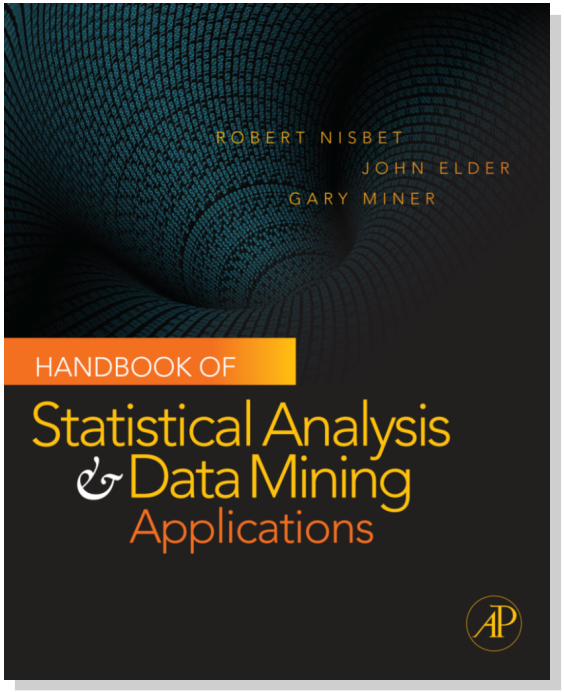






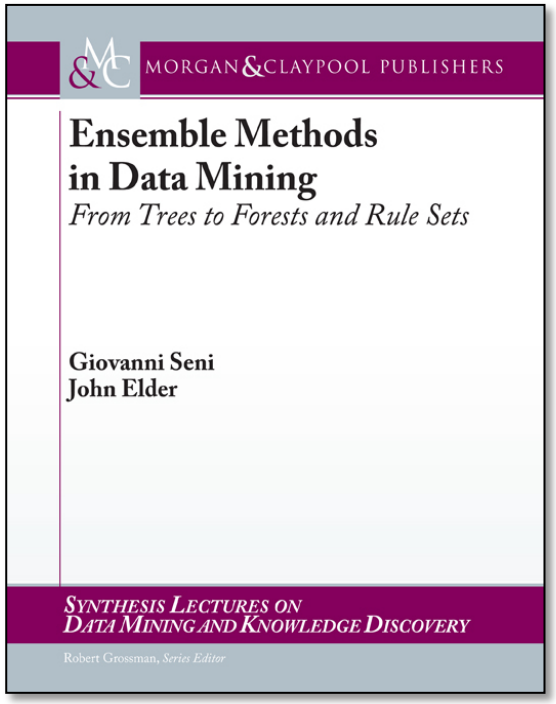

Recommendation Engine
Leprechaun 4: In Space
Crocodile
Arachnid
Exercise
Bonus Material
IMAX
The Jacket
Dark Water
Dead Birds
Documentary
Slam
Sports
Equilibrium
Misc Big Budget
Enigma
When in Rome
Cirque du Soleil
G. I. Jane
Armageddon
Family
The Passion of the Christ
The Rock
Super Size Me
Critically Acclaimed
Sci-Fi
Dune
Independence Day
The Ring
Battlestar Galatica
Contact
17,700 Movies
in the
Netflix Competition
Bonus Material
When We Were Kings
Sin City
Brave Heart
A Beautiful Mind
Todd.Holloway@gmail.com 03/25/2007

Books

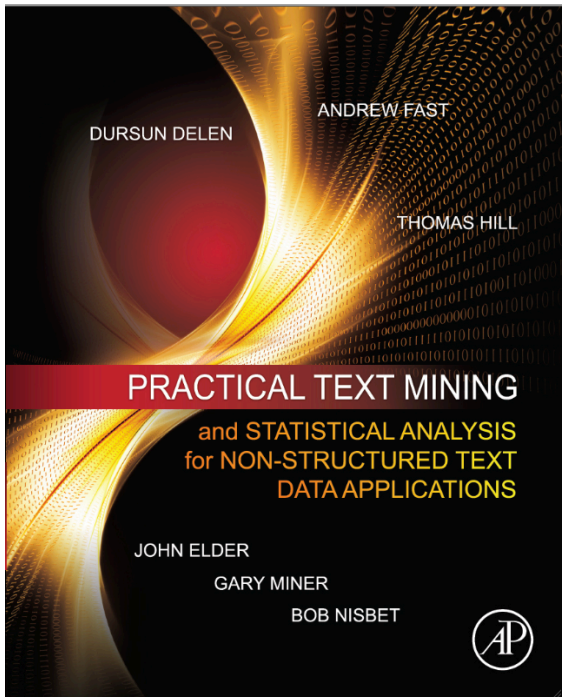


Book written
for practitioners
by practitioners
(May 2009)

2009 Prose Award Winner



How to combine models
for improved predictions
(Feb 2010)



Introduction
to Text Mining
for practitioners
(Jan 2012)

2012 Prose Award Winner

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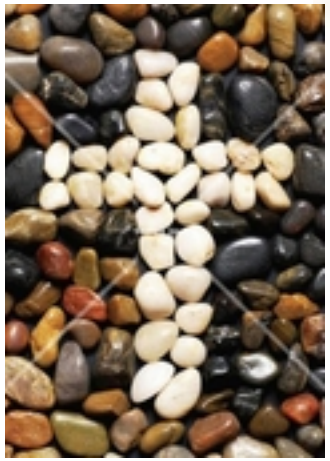
JOYPALS

Chance? Or Design?

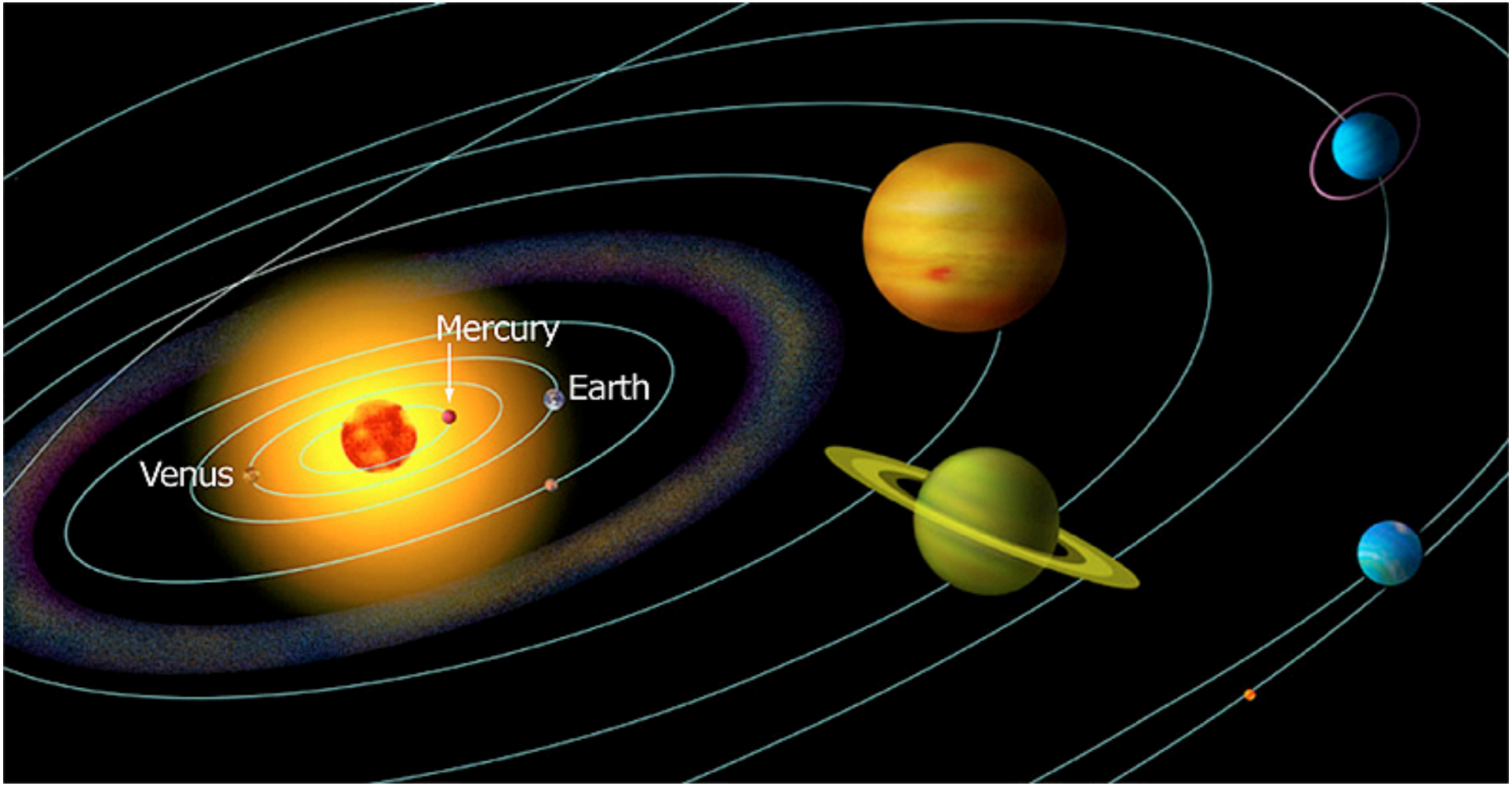
Scientific method:

- Hypothesize a cause
- Measure an observation
- Calculate how likely the observation would be under the hypothesis
- For multiple, independent observations, multiply odds to get joint odds

"Science is the belief in the ignorance of experts"
-- Nobel Prize-winning physicist Richard Feynman



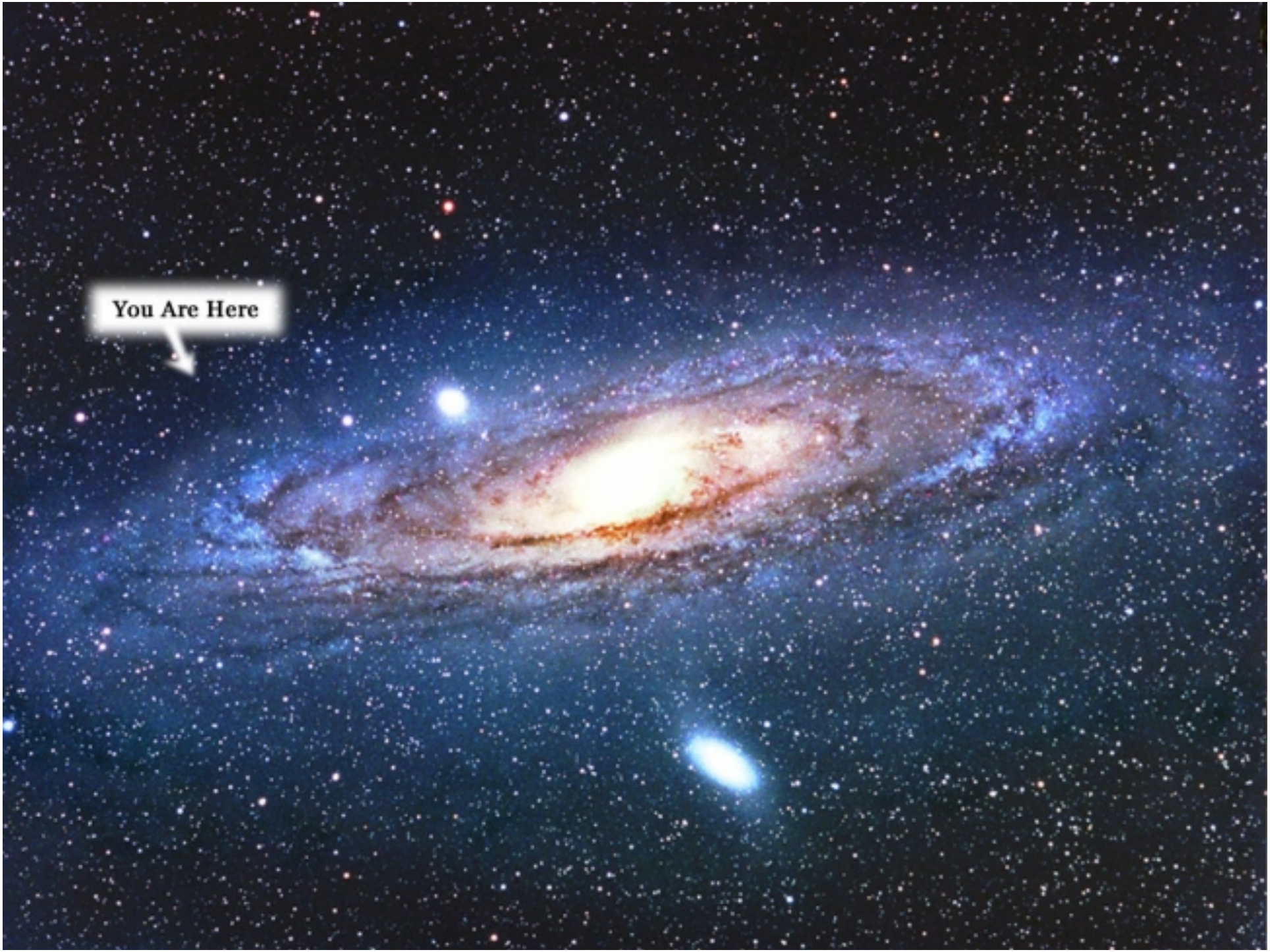
TIME
THE WEEKLY NEWSMAGAZINE
Is God Dead?



10^{27} planets estimated in Universe,
filtered by sun's age + planet's distance from sun
= 10^{24} candidate planets for life (in 1966)

SETI: Search for Extraterrestrial Intelligence

Earth


You Are Here

Psalm 8:1-6

1 LORD, our Lord,
how majestic is your name in all the earth!
You have set your glory in the heavens.
2 Through the praise of children and infants
you have established a stronghold against your enemies,
to silence the foe and the avenger.
3 When I consider your heavens,
the work of your fingers,
the moon and the stars,
which you have set in place,
4 what is mankind that you are mindful of them,
human beings that you care for them?
5 You have made them a little lower than the angels
and crowned them with glory and honor.

3 Creation Miracles

- Matter from nothing
- Life from non-life
- Complex life from simple life

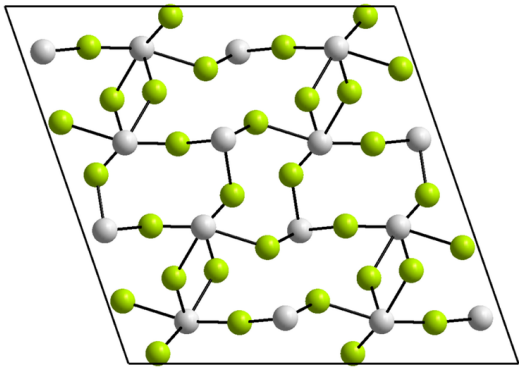
Creation tuned for life … here

- Distance of earth from sun just right
  (2% difference = no life)
- Oxygen is 21% of air (fire v. suffocation)
- Large close moon (tide v. orbital problems)
- Carbon Dioxide right (heat v. suffocation)
- Gravitational constant 10^{-40} (!)
- Tilt of earth 23 degrees (temperature stability)
- Earthquakes, lightning, cosmic radiation, volcanoes -- all needed for elements

Distant parts of Universe needed here

- Example: Fluoride
  - 13th most common element in earth crust, but apparently rare to not react. Must be:
  - Generated by white dwarf stars bound into binary systems with a large companion star

Transmitted by an exploding supernova close enough to grab elements but far enough away to not destroy us!



Bottom line

- Chance of life *anywhere* in Universe is worse than 1 in a googol! (10^{100})
- *Arno Penzias (Nobel prize in physics)*:
  "Astronomy leads us to a unique event, a universe which was created out of nothing, one with the very delicate balance needed to provide exactly the conditions required to permit life, and one which has an underlying (one might say 'supernatural') plan."

Revelation

- *John O'Keefe (astronomer at NASA)*: "We are, by astronomical standards, a pampered, cosseted, cherished group of creatures.. .. If the Universe had not been made with the most exacting precision we could never have come into existence. It is my view that these circumstances indicate the universe was created for man to live in."

- *Robert Jastrow (self-proclaimed agnostic)*: "For the scientist who has lived by his faith in the power of reason, the story ends like a bad dream. He has scaled the mountains of ignorance; he is about to conquer the highest peak; as he pulls himself over the final rock, he is greeted by a band of theologians who have been sitting there for centuries."

Genesis 1:8

And the LORD God planted a garden eastward in Eden; and there he put the man whom he had formed.

John F. Elder IV
Founder & CEO, Elder Research, Inc.

Dr. John Elder heads the USA's largest and most experienced data mining consulting team. Founded in 1995, Elder Research, Inc. has offices in Charlottesville, Virginia, Washington DC, and Baltimore Maryland (*www.datamininglab.com*). ERI focuses on Federal, commercial, and investment applications of advanced analytics, including text mining, credit scoring, process optimization, cross-selling, drug efficacy, market timing, and fraud detection.

John earned Electrical Engineering degrees from Rice University, and a PhD in Systems Engineering from the University of Virginia, where he's an adjunct professor teaching Optimization or Data Mining. Prior to 20 years at ERI, he spent 5 years in aerospace defense consulting, 4 heading research at an investment management firm, and 2 in Rice's *Computational & Applied Mathematics* department.

Dr. Elder has authored innovative data mining tools, is a frequent keynote speaker, and has chaired International Analytics conferences. John was honored to serve for 5 years on a panel appointed by President Bush to guide technology for National Security. His book with Bob Nisbet and Gary Miner, *Handbook of Statistical Analysis & Data Mining Applications*, won the PROSE award for top book in Mathematics for 2009. His book with Giovanni Seni, *Ensemble Methods in Data Mining*, was published in 2010, and his book with colleague Andrew Fast and 4 others on *Practical Text Mining* won the 2012 PROSE award for Computer Science.

John is grateful to be a follower of Christ and father of 5.