October 26, 2007

Colorado-Wyoming Chapter

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Fall Meeting Friday, October 26th, 2007 1 pm - 4 pm.

A final reminder, the Fall Chapter will be held at the Anshutz Medical Center (formerly
Fitzsimons Hospital) next Friday, October 26th from 1 to 4 pm. This is the first time we have held a meeting at this location. There are several reasons for holding the meeting at this location.

The talks described below cover a variety of topics both in and outside of the health sciences field. As always, we hope that these talks will appeal to both those involved in the field as well as those outside. A tentative agenda follows.

Starting at 1pm,

Laura Saba - University of Colorado Denver and Health Science Center
Calvin Croy - University of Colorado at Denver and Health Sciences Center
Manuel Lladser - University of Colorado - Boulder

Break with refreshments ~ 20 minutes

Dennis Lezotte - University of Colorado Health Sciences Center
Derek Sondregger - Colorado State University

With the exception of Denny Lezotte's talk which is 45 minutes, the talks will be approximately 25 minutes. We will conclude at approximately 4pm. With the exception of Manuel Lladser's talke, abstracts for most of
the talks were included in the last note.

Manuel Lladser, Department of Applied Mathematics, University of Colorado at Boulder;

TITLE: Sufficient Markovian embeddings of non-Markovian random sequences;

ABSTRACT: Let A be a finite set and X a sequence of A-valued random variables. We characterize the smallest state space size needed to analyze the frequency statistics of a regular pattern of a k-th order Markovian sequence X. The exponential growth of the state space as function of k motivates to consider embeddings that take into account the actual probabilistic parameters of the Markovian model of X.
Surprisingly, this can be done even for non-Markovian sequences and non-regular patterns: for any transformation Q over finite length sequences, we show there exists a unique coarsest refinement R of Q in a certain class of transformations such that R(X_1), R(X_1,X_2), R(X_1,X_2,X_3), etc is Markovian. (By coarsest refinement we mean that R(u)=R(v) implies Q(u)=Q(v) and that R is a deterministic function of any other refinement of Q that leads to a Markov process.) A toy example of a non-Markovian sequence of 0's and 1's is analyzed thoroughly and Discrete as well as Gaussian asymptotic distributions are established for the number of occurrences of different regular patterns in X_1, ..., X_n.

*** Directions

Directions and Parking Information can be found at
http://www.uchsc.edu/fitzsimons/maps .

The new center is located approximately at Colfax and Peoria Street - in Aurora. On the Anschutz Medical Campus, there are daily cash customer parking lots

for UCDHSC Patients and Visitors:

Ignacio Lot (511) - located in back of the Administration Building (Building 500) on East 19th Avenue. Neon orange signs posted on campus will also direct you to the UCDHSC visitor parking lot. There are two pay and display machines that are available to render payment. These machines will accept bill denominations up to $20.00 and coins. The flat $4 rate has been change to the following:
   1 hour or less - $1
   1 – 3 hours - $2
   Over 3 hours - $4
After 5pm and weekends - $1

Lot 504 - located on the west side of Uvalda Ct. between 17th Place and 19th Avenue is a metered lot for short term visitors. The rate is $1 per hour. This lot was opened to replace the parking meters that used to be along 17th Place in front of Building 500.

Note archives

Just a reminder, you can find an archive of messages at

http://mailman.ucar.edu/pipermail/cowystats/

Job Opportunity

Fair Isaac Analytic Science, Westminster, CO
apply online at fairisaac.com or direct questions to tressafowler@fairisaac.com

Scientist II

Using state of the art tools, design and develop innovative data-driven predictive and decision models based on neural networks, machine learning, data mining, statistical modeling, pattern recognition, and artificial intelligence, to support variety of business decisions in the collections and recovery industry.

The main responsibilities include:
• Analyzing and understanding large amounts of historical data to determine suitability for modeling
• In-depth data understanding and exploratory analyses
• Pattern identification and feature extraction and selection
• Analytic model design and development using different types of tools and modeling techniques
• Analyzing model performance and preparing model reports for communication with internal and external clients
• Participating in pre-sales process and providing post implementation support

Required Experience : Minimum Qualifications
• BS in Mathematics, Statistics, Operations Research, or related major. Min GPA 3.5
• Work experience in risk analysis, computer science or a related technical field.
• Proficiency in programming skills.
• Strong problem solving and analytic ability
• Fluency in English.
• Excellent oral and written communication skills.
Preferred Qualifications:
• Domain knowledge in risk analysis.
• 2+ Years experience in Financial Industry
• Masters Degree in related field (Math, Computer Science, MBA)
• Working knowledge of C++ or Java, Python, UNIX and SQL Server

Scientist I

Using state of the art tools; design and develop innovative data-driven predictive and decision models based on neural networks, machine learning, data mining, statistical modeling, pattern recognition, and artificial intelligence, to support variety of business decisions in the collections and recovery industry.

The main responsibilities include:
• Analyzing and understanding large amounts of historical data to determine suitability for modeling
• In-depth data understanding and exploratory analyses
• Pattern identification and feature extraction and selection
• Analytic model design and development using different types of tools and modeling techniques
• Analyzing model performance and preparing model reports for

communication with internal and external clients
• Participating in pre-sales process and providing post implementation support

Required Experience : Minimum Qualifications
• BS in Mathematics, Computer Science or a related technical field.
Minimum GPA of 3.5
• Familiar one or more of the following programming languages and/or
platforms (C++, Java, Python, UNIX, SQL Server, Windows)
• Strong problem solving and analytic ability
• Fluency in English
• Excellent oral and written communication skills.
Preferred Qualifications:
• Familiarity with Risk Analysis
• Coursework in Statistics and/or Business