



Terry Adams

Professor

University of Minnesota

Training in Health Informatics

The University of Minnesota has a long history of training in health informatics with current work focused on training within the University Academic Health Center. The logistics of the academic graduate program in Health Informatics as well as a introduction of the newly developed work in the Clinical and Translational Science Award program and University Partnership for Health Informatics will be presented. Training and research includes clinical informatics research, privacy and security, software engineering, public health leadership and informatics sub-specialization.

Terrence Adam, M.D., Ph.D. received a Bachelor of Science in Pharmacy from South Dakota State University and Doctor of Medicine and PhD in Health Informatics at the University of Minnesota. He continued his medical training at the Mayo Clinic in Scottsdale Arizona where he completed a residency in Internal Medicine, and was the Chief Medical Resident. Dr. Adam joined the faculty at the University of Minnesota, College of Pharmacy as an Assistant Professor in the Department of Pharmaceutical Care and Health Systems. In addition to his work in the College of Pharmacy, Terrence is a core faculty member in the University of Minnesota's Health Informatics graduate program; he also serves patients as a Clinician Educator/Preoperative Care Physician at the Minneapolis Veteran's Administration. Dr. Adam's research work includes the development of clinical information systems and their effectiveness, electronic prescribing implementation evaluation and the use of clinical databases to assess the clinical significance of drug-drug interactions and assess peri-operative risk assessment and patient outcomes. Terrence is also a University of Minnesota Clinical and Translational Science KL2 Scholar focused on large database assessment and the development and application of Computational Pharmacoepidemiology.



Vivek Ajmani

Business Intelligence & Analytics Manager

Medtronic

Predictive Modeling for Noobs

The intent of this presentation is to provide a thorough introduction to predictive models. Topics will include a brief overview of predictive models, the steps involved in building predictive models (data accumulation/gathering phase, model build phase, validation phase, and tracking phase), how organizations use predictive models to achieve business objectives, and how predictive modeling teams fit into the overall structure of an organization. Throughout the presentation, examples will be provided to highlight the benefits of using predictive models to achieve business goals. Discussion will also focus on the commonly used predictive models and on the types of organizations using these models.



Jean-Marie Bertoncelli

Business Intel

3M

Predictive Modeling with GeoSpatial

This presentation will examine 3M's predictive modeling for target marketing, lead generation, customer attrition served up in a geo-spatial reporting.

Mark Dalton

Social Media Analytics: Get to really know your customer!



Prasanna Desikan, PhD

Senior Scientific Advisor

Allina - Center of Health Care Innovation

Predictive and Social Analytics for Healthcare Providers



Chris Engstrom
 President
 Slipstream Analytics
 Predictive Analytics 101

How to conduct a predictive analytics project. For example:

- problem identification
- identification of success measure and deployment plan
- resource planning (who needs to be involved, tools and hardware needed, schedule, what will it take etc.)
- definition of dependent var
- hypothesis independent vars
- data development (IT work/data gathering, data quality, ETL)
- univariate analysis, multivariate analysis
- modeling (calibration, validation)
- deployment
- ROI and measurement - etc



Tom Grabowski -
 Co-Founder & CEO
 RapidEngines
 Three ways to master Twitter and other big data



Mark Hollenbeck
 VP of Healthcare Solutions
 Predixion Software
 The Last Mile of Analytics



Bonnie Holub
 Honeywell Endowed Chair in Global Technology Management
 University of St. Thomas

Center of Excellence for Big Data

The Graduate Programs in Software has established the Center of Excellence for Big Data, which will provide: Research: Research opportunities for companies evaluating big data practices using the center's resources. Research opportunities for academic departments and interdisciplinary research. Education: Classes and seminars in tools and techniques being used for big data and reviews of research results worldwide. Shared learning space for students and faculty working in big data to compare results, assess skills, build teams, and evaluate toolkits. Best Practices: Clearinghouse for metrics, methodologies, and knowledge repositories related to big data. Reports to industry regarding practical application of big data tools, techniques, and best practices. This presentation will discuss this Center.

Bonnie K. Holub, Ph.D. holds the Honeywell Chair in Global Technology Management in the Graduate Programs in Software (GPS) at the University of St. Thomas, in St. Paul, MN. She is a founding member of the Center of Excellence for Big Data (@CoE4BD). She was a tenured faculty member in GPS from 1987-2004, when founded and directed the Artificial Intelligence/High Performance and Parallel Computing Lab. She is also the CEO of ArcLight, Inc., focusing on strategic Business Intelligence. Dr. Holub is a founder and former CEO of Adventium Labs/Adventium Enterprises, a non-profit research and development lab. Dr. Holub holds a PhD in Computer Science/Artificial Intelligence from the University of Minnesota. In 2009 she was named the Distinguished Alumnus of the Computer and Engineering Department at the University of Minnesota, Minneapolis, MN.



Chris Kirchberg

**Systems Engineer
JMP**

Exploratory Data Analysis and Dynamic Graphics for Big Data

Need a quick, easy way to explore your data at your desktop in an interactive fashion? Need visual representations to quickly see trends, rather than a spreadsheet? JMP, Statistical Discovery from SAS, is the perfect tool for exploring data. Whether you are searching for relationships, find patterns, build models, and identify outliers, learn how to look at your data to gain critical insights into your business problems. We'll highlight the easy to use nature of the drag-n-drop GUI to build graphics, and analytics, at your desktop or even from your iPad. This session walks through a case study showing the basics of analysis using JMP's dynamic linking, visual analytics, and predictive modeling to uncover key factors in credit card turnover (aka churn).

CHRIS KIRCHBERG is a Systems Engineer at JMP. Before joining SAS, Kirchberg was a field application scientist for Ingenuity Systems where he worked across the academia and pharmaceutical and biotechnology companies exploring biological pathways related to data. Kirchberg has an MS in biochemistry from Colorado State University where he researched structure-function relationships of proteins. He was also an adjunct professor at Metropolitan State College of Denver where he taught human biology to non-majors.



Jeff Klein

**COO
HMS - Health Market Science**

The Science of Business Insights from Big Healthcare Data & Analytics

This session dives into the business insights and technologies used in combining two worlds- Master Data Management -- Health Care Providers and Organizations (Big Data)- Medical Claims Analytics (Big Analytics) as demonstrated by the following case studies- Physician and Facility analytics to calculate market share and razor tune sales targeting - Rich insights of the Health Care Provider "social network" through influence scoring In addition to the case study business insights, this session will also discuss the architecture and latest technologies (e.g. Hadoop, Cassandra) used to combine structured data, unstructured data and analytics to meet the growing business demand.



Kathy Lange

**Sr Director, SAS Business Analytics Practice
SAS**

Technology Strategies for Big Data Analytics

The exploding volume, complexity and velocity of big data present an increasing challenge to organizations, but also a significant opportunity to derive valuable insights. As organizations are tasked with managing massive amounts of data, it's clear that the value of big data will be derived from the analytics that can be performed on it. Analytics is the key to identifying patterns, managing risks and tackling previously unsolvable problems. This presentation provides an overview of how to comprehensively tackle big data, including emerging strategies for information management, analytics, and high performance computing.

Kathy Lange has over 25 years of experience educating users and implementing analytics solutions. She is Senior Director of SAS Americas Business Analytics Practice, which assists customers in defining their business problems and crafting strategies for solving those problems with integrated SAS solutions that include business intelligence, data integration, and advanced analytics. Kathy currently leads a team of business analysts that focus on High Performance Analytics. They help clients derive business insight from large quantities of data, both structured and unstructured. For the past several years she has focused much of her effort on helping clients analyze textual information that may be contained in documents, surveys, technical support notes, warranty repair records, emails, and product reviews. Lange joined SAS in 1998 after 14 years at IBM where she served as a statistician for the procurement and quality engineering departments for IBM's largest manufacturing sites. She holds a BS in Mathematics from University of Delaware and a MS in Operations Research from Union College.



Marc Light

Senior Scientist and Manager of Applied Math Group, Windlogics

Sriharsha Veeramachaneni PhD

Senior Research Scientist, WindLogics

Ken Williams

Senior Research Scientist, WindLogics

Machine learning problems in renewable energy

Solar and wind energy are highly variable resources, in contrast to relatively constant generation from fossil fuels. In order to maintain the reliability of the electrical grid, operators require forecasts of future energy production. Power traders also use such forecasts to help achieve favorable market trading conditions. At the other end of the wire, the electrical load must also be forecasted because of the requirement to balance generation and load at all times. These forecasts depend on numerical weather prediction and other inputs. These and related forecasting tasks present interesting machine learning challenges such as the modeling of noise in the predictive variables (often weather variables themselves predicted), functional regression as opposed to conventional multivariate regression, and hierarchical modeling to handle turbine, wind farm, and grid-level fleet forecasts. Often physically-motivated modeling can only take us part of the way towards forecasting the target variable, necessitating machine learning and statistical techniques to bridge the final gap.



Michael O'Connell, PhD

Sr Director, Analytics

Tibco Spotfire

Driving New Business Opportunities & Reducing Risk with Predictive Analytics



Jamie Ostheimer, PhD

Data Scientist

EnStratus

Success and Pitfalls of starting an Internal Data Science Practice

I will discuss the success and failures I have had in the past 2 years starting up a Data Science practice at two organizations. I'll go through my point of view on what things to do before you start up the practice, how to hire a Data Scientist, and how to enable success. I will briefly touch on topics such as what tools Data Scientists utilize, some cloud technologies that are important to be familiar with and the importance of subject matter experts.

James has more than ten years of experience working with, modeling and deriving insights from data. Ostheimer holds a Masters degree in Astronomy from Yale and a Ph.D in Astronomy from the University of Virginia. He has led software teams doing cutting-edge research (DARPA), and building cutting-edge web apps. Ostheimer takes projects from the idea stage all the way to production, including developing and writing patent proposals (e.g. patent titled SYSTEM AND METHOD FOR DETECTION, CLASSIFICATION, AND MANAGEMENT OF COLLUSION IN ONLINE ACTIVITY). Most recently Ostheimer has helped build data science practices at 2 companies (DemandMedia and EnStratus), creating data products that significantly affected those companies product offerings and bottom lines.



Tom Rieger

Information Management leader

Informix

1) Smart sensor data: The next big data challenge with always-on data generators

2) In-memory data analytics for the rest of us



Rob Risany

WW BI/AA Strategy and Chief Evangelist of Business Analytics

1) Predictive Analytics for Quality & Condition Monitoring, Insight & Action

2) Advanced Analytics for Customer Segmentation & Marketing

Advanced analytic techniques are well applied in managing quality. In this session, we will examine the two approaches to quality management, showcasing how they play off of and add value in the context of each other.

This work is based upon case studies by many of IBM's clients in the manufacturing arena.

Traditional marketing techniques leave marketing treat segmentation as a mechanism to slice and dice customer data in reports. In this review, we will explore how clients are combining new data sources including social media and market research, to increase segment granularity, and drive better customer interactions.

Rob works with clients to define breakaway applications of business intelligence and advanced analytics-- with a particular focus on deploying analytics for optimizing outcomes at the point of interaction. Rob brings more than 15 years of enterprise software and industry experience to IBM including enterprise application integration, business process management, business intelligence, and predictive analytics.



Paul Saarinen

Director of Digital Strategy

Yamamoto

Influence: It's in your genes



Snehanshu Shah

Vice President Database & Technology Solutions

SAP

In-Memory Predictive Analytics