

# Data Solves Societal Problems



Sheldon Jacobson

Professor and Director, Simulation and Optimization Laboratory

## CURRENT RESEARCH

The proliferation of data contributes to the common good

More and more data is being collected every day at alarming rates. The proliferation of data via the Internet and other electronic media has created opportunities, like no other time in history, to glean new insights into a variety of societal issues. The field of Operations Research and Advanced Analytics provides the necessary tools for extracting such information and Dr. Sheldon H. Jacobson, of the University of Illinois at Urbana-Champaign continues to be a frontrunner contributing to the field with innovative and necessary science. While his projects are varied ranging from big data analysis, to mass murder rates, to March Madness predictions, each is centered around the incredible information that can be pulled from the prodigious amount of data that has been collected. For this reason, there is no end to the research questions that Dr. Jacobson and his team can tackle; their interest in human welfare and solutions to societal issues however, has thus far been a guide to their diverse interests.

Dr. Jacobson's research brings together a diverse group of people with graduate students and undergraduates from Computer Science, Industrial and Enterprise Systems Engineering, Civil Engineering, and Mathematics. The team works on important societal problems with techniques that exploit interesting data sets in novel ways. The lab's success to date has been driven by the ability to tie together data sets and ideas by weaving them into a mosaic of insight upon a collection of previously unexplored issues and challenges. The variety in projects as well as the range of investigating big data, middle data, and small data is a holistic approach to analyzing valuable information that has been waiting to be revealed...

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## AFFILIATION

University of Illinois Urbana-Champaign

## EDUCATION

- Ph.D., in Operations Research, 1988 , Cornell University
- M.S., in Operations Research, 1986 , Cornell University
- M.Sc., in Mathematics, 1983 , McGill University
- B.Sc., in Mathematics, 1981 , McGill University

## AWARDS

- Guggenheim Fellowship, John Simon Guggenheim Memorial Foundation, 2003
- Finalist, INFORMS Section for Public Programs, Services and Needs, Best Paper Award, 2012
- Award for Technical Innovation in Industrial Engineering, Institute of Industrial Engineers (IIE), 2013
- Fellow, Institute for Operations Research and the Management Sciences (INFORMS), 2013
- University of Illinois Office of Public Affairs Award for Communications & Marketing Excellence - Media Relations, 2013

## RESEARCH AREAS

Technology, Computational Sciences / Mathematics, IOT, Devices, Data

## FUNDING REQUEST

Your contributions will support the continued research of Dr. Jacobson as he uses big, medium, and small data to reveal new tools of advanced analytics. Donations will support the necessary funding for each project. Specifically, research will require \$40K for the BOSS project and between \$5K-\$10K for the smaller side projects each year. In choosing to donate, you will play a role in utilizing data to respond to societal issues including health and safety in addition to athletics and election predictions.