

CENTER FOR
**DATA
SCIENCE**
AND
BIG DATA
ANALYTICS

Strength in
Numbers

**OAKLAND
UNIVERSITY™**

Center For Data Science And Big Data Analytics Oakland University

Dec. 1, 2016

Why A New Center

This century is the century of information!

Data are information!!

However, the amount and formats of information available are so very large that unless it is adequately and properly summarized, it has no value.

Changes in times, situations, contexts and circumstances result in changes in information. Thus, there is genuine need for storing and updating the information.

With rapidly changing levels of information, Scientists or practitioners working with data can no more work in isolation. A center like C-DAS is a best way to connect these people.

Who We are?

- We, the collective group of scientists with extensive expertise and exposure to data science are one such central point for Michigan.
- We are the group of people training the future generation of students dealing with quantitative applications and data- especially large data.
- We all come with very diverse academic backgrounds but with a common thread that binds us being the “large complex data”.

What We Envision to Be

- Our Motto:

Strength in Numbers

Numbers, in **quantitative sense**: Data are information!

Numbers, in the sense of **multiplicity of disciplines** involved and their synergy-
Quantitative Sciences, Business, Biological, Health and Medical Sciences, Engineering and
Technology

Numbers, in the sense of **multiplicity of expertise** we provide and activities we plan to
undertake

Numbers, in the sense of **multiplicity of organizations** involved

Numbers, in the sense of **multiplicity of sectors** involved- Academia, Business, Industry,
Health care, Financial Sector, Service Sector, Government....

What We Envision to Be

We envision ourselves

- to be a common platform for all of above to meet the new challenges of how to deal with and how to solve cutting-edge data science and big data problems.
- to provide extensive computing facilities for the above.
- We envision ourselves to be a research center for the theoretical and practical aspects of data science.

Vision Statement

- C-DAS plans to be an all inclusive forum for those from academia, industry and government interested in development and applications of data science and big data analytics with emphasis on promoting the discipline of data science and on providing the much needed expertise to local organizations.

Our Goals and Objectives

- **Educational**: For the current and next generation of data scientists
- **Research**: Define the problems and develop appropriate methodologies
- **Service**: Be a central place in (south-eastern) Michigan to provide the expertise
- **Knowledge**: Creation of knowledge and imparting it to society.
- **Betterment of Profession**: Development and Promotion of this new important discipline by demonstrating its strength and usefulness in sciences and society.

Founding Faculty

- **Vijayan Sugumaran** (Management Information Systems)- Co-Director
- **Ravi Khattree** (Mathematics and Statistics)- Co-Director

- **Fabia Battistuzzi** (Biological Sciences)
- **Joseph Callaghan** (Accounting)
- **Subramaniam Ganesan** (Computer Science)
- **Randal Westrick** (Biological Sciences)

Data Sciences Related Works of Founding Faculty

- In the next hour, during our first session, some of our founding faculty members will talk about their research work as it pertains to data science.

And we invite people from industry and others from academia to make use of our in-house expertise, either through research collaborations or through funded research.

Data Sciences as They Are Practiced in Industry

- We want to know what are the practices prevalent in industry.
- What are the data analytic challenges industries are facing.
- What industry needs in terms of techniques, expertise and manpower in data sciences and how we, as university, can address those needs.
- How our expertise can help the no-university side of research and applications of data analytics.

Second session with speakers from industry is organized with that in mind.

Stakeholders

- The university
- Local industries and organizations
- Current and next generation of Students

What are we looking as support from all of you?

Involvement

Collaboration and partnership

Long term projects

Financial support

Students support and Internships

Our Open Invitation

- We invite and welcome all of you to get involved with C-DAS activities in one or more directions
- We invite you to help us fund this center through variety of long term data science projects and collaborative activities.
- Currently as a new center, we are open to a variety of funding mechanism and open to your suggestions.
- We can support, through our computational resources, big data analytics especially for those organizations which may not have such resources readily available to them.
- From time to time, we plan to organize conferences and workshops and seek your participations in these activities.



*Thank you!!
(for being a data point in this exploration)*