

# Data science in the age of uncertainties

C. F. Jeff Wu

Georgia Institute of Technology

## Abstract

In this talk I will first trace the history of my role in the coining of the term “data science”. For many years since the early 1980s, I had grown dissatisfied with using the term “statistics” to describe my profession because it is usually connected with descriptive statistics, while what statisticians do can be summarized as a *trilogy* of data collection, data modeling, and problem solving. Thus I proposed the terms data science and data scientist in a public lecture at the U. of Michigan in 1997. With the explosion of huge data collected through the internet, data science has grown to become a very popular, fashionable and impactful profession. I will describe how it is so different from the traditional meaning and work of statistics. A major new component is the role played by computer scientists and the new emphases on algorithms, coding and huge data they bring in. I will end with some examples about the applications to uncertainty quantification and variation reduction.