

*Holcombe Department of Electrical and Computer Engineering
Seminar Series*

Applied Data Analytics in Neuroscience and Natural Language

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Abstract

Dr. Bao will present two projects that employ data analytics on neuroscience and Natural Language, respectively. On one hand, certain neuropsychiatric disorders, such as Alzheimer's disease or depression, are associated with morphological changes on human brain cortex. A key to effective diagnosis and treatment is to detect such changes that are too minor to be seen by doctors from MRI images directly. Dr. Bao's research in MRI image processing focuses on extracting anatomical landmarks on cortical surface. On the other hand, while online shopping is rapidly changing retailing and our life, it has generated a massive amount of data: the product reviews. However, there are often too many reviews and too much noise in the reviews. We need artificial intelligence (AI), especially natural language processing (NLP) and machine learning (ML), to help consumers find out helpful reviews for better online shopping experience. In this talk, Dr. Bao will discuss about his work on using semantic analysis and hierarchical topic modeling to measure the helpfulness of reviews.

Biography of Speaker

Dr. Bao is an assistant professor with Department of Electrical and Computer Engineering at University of Akron, where he joined in fall 2013. His research interests are on artificial intelligence (AI) and biomedical data analytics (computational biology and computational neuroscience). In AI, he works on combining natural language processing (NLP) and knowledge representation (KR). His current research is funded by National Science Foundation (NSF, PI), Federal Aviation Administration (FAA, PI) and Air Force Research Lab (AFRL, co-I). His research has been covered by MIT Technology Review and Lancet Neurology.