

## Presentation Abstract

Learn how Sandia National Laboratories has applied neural network algorithms to enhance customer queries and improve the relevance of search results. In this case study, we will review our use of models such as Word2Vec to better understand and profile our unstructured content. We will discuss how our search application integrates these models with the Apache Solr search engine and describe how queries are improved with term expansion and phrase identification.

### John Herzer bio

John Herzer leads the enterprise search and analytics effort at Sandia National Laboratories. He was instrumental in achieving the migration to open source search technology at Sandia and is guiding the effort to incorporate machine learning techniques to improve search results. Before his involvement with search, John provided technical leadership for the migration of over a million documents to the FileNet platform. He has spoken at IBM Information On Demand and NLIT conferences as well as at the Enterprise Search Summit.

### Pengchu Zhang bio

Pengchu Zhang is a computer researcher at Sandia National Laboratories. He has conducted research in computer modeling/simulation, data analytics and NLP for more than ten years. His recent interests including unstructured data analysis and deep learning.